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THE THERAPEUTIC EFFECT OF VENESECTION

WITH PARTICULAR REFERENCE TO LOBAR PNEUMONIA *

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Perhaps no therapeutic measure of our older practice has fallen into such disrepute and has been so completely discarded as phlebotomy. At one time the therapeutic sheet anchor in every ailment, it is today regarded, as Hoskins [1] in a recent paper states, as one of those methods that "placed the history of therapeutics in the humorous literature of the ages." Even in the restricted field of indications still assigned the measure (cardiac incompetence in arteriosclerosis, pneumonia and organic heart disease; cerebral hemorrhage; sunstroke; eclampsia) a general timidity is apparent and phlebotomy is used only as a final resort. This general disfavor had its origin in the utterly unwarranted and mischievous use of bloodletting for every known ill with which the medical profession of a century ago had to deal. The reaction to the abuse led to a virtually complete abandonment of the measure by the general practitioner.

CHANGES FOLLOWING VENESECTION

In the restricted use of today, two underlying purposes can be recognized: the one, to relieve mechanically a cardiac dilatation; the other, to deplete the circulation of a certain amount of presumably toxic material. Recent investigation, however, has disclosed certain alterations following venesection which may account for the therapeutic effects not infrequently noted by capable clinicians of the older school as well as by more recent observers. Among these the changes in the coagulation balance and in the leukocytes are, of course, well known; Musser [2] has reviewed in particular the reactive polymorphonuclear leukocytosis, and concludes that it is similar in character to that brought about by bacterial invasion. Drinker [3] regards it as a response of the organism to the foreign proteins swept into the circulation from the tissue fluids.

Other alterations include the increase in the nitrogen excretion, an observation repeatedly confirmed. Taylor and Lewis [4] believe that "the increased nonprotein nitrogen of the blood is the result of an active process on the part of the tissues due either to a setting free of stored amino-acids or to amino-acids derived from the hydrolysis of tissue protein." Lewy and Mendl,[5] in studying this phase of the reaction, reached the conclusion that in normal individuals the hydremia that follows bleeding is associated with a diminution of the noncolloidal nitrogen of the blood, but in febrile individuals a mobilization of tissue (retention) nitrogen is induced which causes an increase in the noncolloidal nitrogen of the blood.

The lipoid balance of the blood is altered after bleeding. Milne found that after severe hemorrhage in rabbits a lipemia would result, the cholesterol increasing as well as the total fats. Ellermann and Meulengracht [6] confirmed this observation, and Feigl [7] has recently studied a number of patients after bleeding (operative, ulcer, etc.) in which the increase in the total fats in the blood amounted to more than ten times the normal, the lecithin and cholesterol increasing four or five times. These alterations vary with the amount and rapidity of the bleeding.

The liver metabolism seems altered (mobilization of fibrinogen); its expression is found in the hyperglycemia that regularly follows bleeding.

Hahn and Langer found that repeated bleeding was followed by a rapid increase in the agglutinin curve of immunized animals. Landau and Klinger could not confirm these results, but more recently Jotten and Trommsdorff have published experimental protocols that confirm Hahn and Langer. Jotten finds that if venesection is made when the agglutinin curve has reached its normal maximum, no increase takes place; but if the animals are bled when the antibody curve is not at its maximum, an increase can be determined after bleeding. He found similar effects with nonspecific injections (milk, vaccine virus, etc.).

There is a diminution in the alkali reserve following bleeding.

Hoskins, Rowley and Rosser, as well as MacGuigan and Atkinson, have called attention to the splanchnic stimulation which occurs after hemorrhage.

As evidence of the physical alterations in the serum we have recently found that the Kottmann [8] reaction becomes positive after bleeding, that the serum antiferment is in most instances diminished, and that the sedimentation time of the red corpuscles in the plasma

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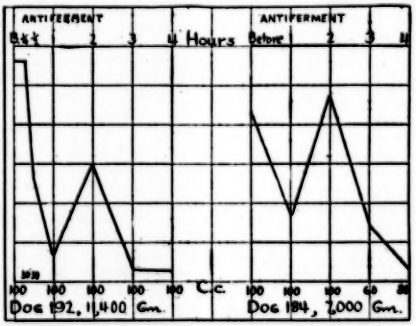
1. Hoskins, R. G.: Some Current Trends in Endocrinology, J. A. M. A. **77**: 1459 (Nov. 5) 1921.
2. Musser, J. H., Jr.: Am. J. M. Sc. **162**: 40 (July) 1921.
3. Drinker: Diseases of Blood, Oxford Medicine **2**: 563, 1920.
4. Taylor, A. E., and Lewis, H. B.: J. Biol. Chem. **22**: 71, 1915.
5. Lewy, J., and Mendl, R.: Deutsch. Arch. f. klin. Med. **136**, Nos. 1 and 2, 1921.
6. Ellermann, V., and Meulengracht, E.: Egesk. f. Læger **79**: 1287 (Aug. 2) 1917.
7. Feigl, J.: Biochem. Ztschr. **115**: 63, 1921.
8. Kottmann, K.: Schweiz. med. Wchnschr. **50**: 644, 1920.

is altered. The typical effect on the antiferment curve is shown in the accompanying chart.

The alterations enumerated, particularly the leukocytosis, the coagulation changes, the hyperglycemia, the mobilization of antibodies, and the alteration in the dispersion of the serum colloids (French investigators use the term "colloidoclasis" for the group of reactions found in the serum), all indicate that we must consider bleeding as a form of protein therapy. Whether the suddenly produced hydremia, whether the residual (tissue) nitrogen that is flooded out into the blood stream, whether the destruction of relatively labile cells (liver cells, splenic endothelium, etc.) or whether the colloidal rearrangement in the plasma itself is to be considered the primary cause in this form of protein therapy is, of course, undetermined. Perhaps several or all of these and other factors are involved.

FERMENT-ANTIFERMENT BALANCE

We wish at this time to call attention to another factor that seems to us of importance in the explanation of the therapeutic effect of venesection in lobar pneumonia. A number of years ago it was pointed out [9] that recovery in lobar pneumonia must involve a dual detoxication: the one a digestive phenomenon in which the lung exudate undergoes rapid lysis, the other an antibacterial mechanism usually coincident or actually dependent on the digestive acceleration. This concept has since been developed by Petersen and Short,[10] Weiss,[11] Blake and Cecil,[12] Thomas and Parker,[13] and particularly by Lord and Nye.[14] The latter have studied in detail the ferment-antiferment balance that exists in the pneumonic exudate and have shown the inhibiting effect of the (plasma) exudate on the autolysis.



Effect of repeated bleeding on the antiferment titer of serum of dogs.

Briefly, it may be stated that in the exudate of the consolidated lung a balance exists between the amount of enzyme present (protease and ereptase from disintegrating polymorphonuclear leukocytes) and the antiferment of the plasma and tissue exudate. Early in the disease the leukocytes at the focus are living and have not shed their enzyme content. As they die, the enzymes diffuse into the surrounding mediums. If at any time the enzyme concentration overbalances the inhibition of the tissue fluids, active proteolysis will commence and the crisis ensue. If in place of this increase in the enzyme concentration we can diminish the amount of the antiferment, the same augmentation of proteolysis will be brought about. This may take place with increasing acidity of the exudate, or actually diminishing the amount of plasma present in the exudate.

It is at once apparent that venesection may have a direct influence on this balance. The depletion of the fluids in the vascular bed results in a prompt compensation by means of fluids drawn from the tissue spaces. In a pathologic exudate, even though largely isolated from the circulation as the pneumonic focus is, the direction of the current would also be from the exudate to the circulation. The amount of antienzyme would therefore be somewhat diminished. Again, it is to be remembered that the serum after bleeding has less antiferment than normally, i. e., the fluids reaching the focus would have less inhibiting substance than before. So, too, diminution in alkali reserve would tend to increase the acidity of the exudate. We have, then, at least three alterations following phlebotomy that seem of importance in directly influencing the ferment-antiferment balance of the exudate in the direction of acceleration of proteolysis.

In addition to these alterations which have a special importance in lobar pneumonia, we must keep in mind the general plasma-activation, which seems definitely associated with hemorrhage, the therapeutic basis of which we have previously discussed.[15]

We believe it but simple justice to many able clinicians of an older period to stress the fact that venesection at times induced striking therapeutic benefits, that a definite and logical basis exists for the therapeutic effects so achieved, and that even today its proper evaluation and application would in many instances afford clinical results when our more conservative methods fail.

9. Jobling, Petersen and Eggstein: J. Exper. Med. **22**: 568, 1915.
10. Petersen, W. F., and Short, C. A.: J. Infec. Dis. **29**: 147 (Feb.) 1918.
11. Weiss, C.: Biochemical Studies of Pneumonic Exudates, Arch. Int. Med. **23**: 395 (March) 1919.
12. Blake, F. G., and Cecil, R. L.: J. Exper. Med. **31**: 403, 445, 499, 1920.
13. Thomas, H. M., Jr., and Parker, F., Jr.: Results of Antemortem Lung Punctures in Lobar Pneumonia, Their Bearing on the Mechanism of Crisis, Arch. Int. Med. **26**: 125 (July) 1920.
14. Lord, F. T., and Nye, R. N.: J. Exper. Med. **34**: 201 (Aug.) 1921.
15. Petersen, W. F.: Biologic Therapy, XX, The Nonspecific Reaction, J. A. M. A. **76**: 312 (Jan. 29) 1921.

Patients Make Furniture and Grow Crops.—More than $300 worth of office furniture has been restored for the government by trainees in the crafts shops at St. Elizabeth's Hospital, Washington, D. C., during the last few months. The furniture consisted principally of office desks, tables and hatracks, the substitutes being made in the shops out of material furnished by the government for training former service men now patients at the hospital. As the new pieces are made, the stock furniture is returned for use in other government departments. The trainees also furnished to the hospital last summer more than $300 worth of truck produce, such as tomatoes, melons, corn, radishes and potatoes. Out of the 800 or more former service men being treated at St. Elizabeth's, about 325 are taking vocational training. Some of the men take only one or two light training courses each day, but more than a hundred of them have advanced to a status at which their mental or nervous condition permits them to spend most of the day in training. Carpentry, auto mechanics, agriculture and poultry raising, concrete setting, weaving, draftsmanship and commercial courses are taught at the hospital.—Field Letter 21, U. S. Veterans' Bureau, Dec. 31, 1921.

WHEN TO OPERATE AND WHEN TO USE RADIUM ON FIBROIDS OF THE UTERUS *

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The time has passed when we required extensive statistics and demonstrations of cases to be convinced of the therapeutic value of radium and roentgen rays in fibroids of the uterus. That fact has definitely been established. We know now that radiotherapy and surgery are competing methods in the treatment of uterine fibroids, and it merely remains for us to determine which of these two methods to employ in a given case. Such a determination is obviously of value not only to the specialist who is to administer the treatment, but also to the general practitioner, the family physician, who is usually the first to be consulted by the patient and who wishes to give intelligent advice in conformity with all the latest advances in our science.

RADIOTHERAPY

In a general way it may be said that the principal field for radiotherapy is in women of 40 or over who have fibroids which do not extend above the umbilicus. The more uniform the enlargement of the uterus, the better is the case suited for this treatment. In other words, the interstitial variety of fibroids of the size mentioned is the ideal one for radiotherapy; but those interstitial fibroids which tend to become submucous or subserous give equally good results. This group, it must be remembered, constitutes proportionally the largest number of cases that come under our observation.

In the second class of patients to be subjected to radiotherapy are the women who are designated as poor surgical risks. These are the patients with marked secondary anemia—and as profuse and protracted menstrual hemorrhages are the foremost symptoms of fibroids, this class is rather large—the patients with cardiac and renal disease, patients with tuberculosis and other respiratory ailments, patients with high blood pressure, and, finally, excessively stout women.

In the third category of patients—fortunately only a small one—in whom radiotherapy is indicated, are those who are opposed to any form of surgical treatment.

Finally, radiotherapy is indicated in women above the age of 40 who have symptomless fibroids. We would, of course, not suggest an operation in these cases, but we may easily remove the tumors by radiotherapy before they give rise to symptoms.

What is accomplished in all these cases by radiotherapy? To begin with, the predominant symptom of hemorrhage is checked in almost all instances. To be more precise, the latest and most extensive statistics teach us that hemorrhage was relieved in 98.4 per cent., and I shall speak later of measures to eliminate even the small remaining 1.6 per cent. of failures. The second effect of radiotherapy is the shrinkage of the tumors. The large statistics by Gauss and Friedrich, which have just been quoted, prove that shrinkage or even complete disappearance of the tumors may be anticipated in from 70 to 80 per cent.

* Read before the Association of Surgeons of St. Louis, Oct. 19, 1921.

The results accomplished by radiotherapy naturally lead us to inquire how these effects are brought about. The generally accepted view is that radium and roentgen rays affect the ovaries, and by destroying the graafian follicles produce a sort of bloodless castration. The cessation of the hemorrhages, then, is an artificial menopause, and the shrinkage of the tumors corresponds to an age involution. This is undoubtedly true, and most writers maintain that there is no specific effect from either roentgen rays or radium on the cells of the fibroids; if there is any effect from radium different from that of roentgen rays, it is merely a burn which destroys the mucosa but not the muscular and fibrous elements of the uterus.

In contradistinction to this view I hold that, in addition to the effect of radiotherapy by way of the ovaries, there is also a direct and specific influence of actinic rays, in particular the radium. As an illustration, Cases 1 and 2 are contrasted:

CASE 1.—Mrs. H., aged 64, was subjected, thirty or more years ago, to the then popular surgical castration of her normal ovaries as the treatment of her fibroids. I do not know how large the fibroids were at that time, but she still has in her pelvis a mass composed of multiple fibroids almost as large as a man's head.

CASE 2.—Mrs. D., aged 48 years, whose fibroid tumor reached almost to the umbilicus, received, Aug. 19, 1921, an intra-uterine treatment of 1,200 mg. hours of radium, and in addition two series of roentgen-ray treatments. September 17, exactly four weeks after the first treatment, there was not even the slightest vestige of a tumor present, and the uterus presented a perfectly normal appearance in every respect. In the first case, the hemorrhage ceased and the tumor probably decreased somewhat in size in the course of thirty years. In the second case, the tumor disappeared altogether in four short weeks. Does this not indicate some specific effect of the radium and roentgen rays?

In order to insure success and to eliminate failures, the following points must be taken into consideration:

1. *The Proper Selection of Cases.*—This refers to the categories of cases in which this treatment is indicated. If there should be a doubt as to the case belonging to the categories mentioned, or if there should be any question of the case being a fibroid at all, radiotherapy may be either inefficient or even harmful. It is wrong, therefore, says Reifferscheid, for the practitioner to refer gynecologic cases directly to the radiologist for treatment. The gynecologist, instead, should first be consulted so as to decide whether or not the case is suitable for radiotherapy.

2. *Mode of Application.*—Of the two methods of radiotherapy, radium is superior to roentgen-ray treatment. It should be inserted within the uterine cavity and should remain there, on an average, a length of time which would be equal to 1,200 mg. hours. Hardly ever is more than one treatment necessary. The technical details of the mode of application may well be omitted in this paper, which aims only at discussing general principles.

3. *Combination of Radium and Roentgen Rays.*—While at the present state of the apparatus, roentgen rays yield neither as prompt nor as certain results as radium, yet, a few series of roentgen-ray treatments following the radium application may serve to make assurance doubly sure.

4. *Time of Radium Treatment.*—It has been found that the most propitious time for applying radium is soon after a menstruation. The probability is then

much greater that the next menstruation will fail to appear. If, on the other hand, radiotherapy is administered in the second half of the intermenstrual epoch, another menorrhagia is more likely to occur.

The advantages of radiotherapy are in brief:

1. *Clinical Cures.*—These are obtained in what probably constitutes more than 60 per cent. of all cases of fibroids coming under our care.

2. *The Element of Safety.*—In the hands of the expert, this method has no mortality, whereas after operations there is, even in the hands of excellent surgeons, an average mortality of from 3 to 5 per cent.

3. *Morbidity.*—There is an insignificant morbidity after radiotherapy which is steadily growing less as the result of improved technic. At any rate, the patients are spared the mental and physical suffering that any major operation entails.

4. *The Economic Aspect.*—Radium treatment is not inexpensive; but as the patients hardly ever remain in the hospital more than two or three days, the expenses for hospital, nurses and dressings are saved, so that the total expense connected with radium treatment is considerably below that of operative treatment. Then, too, the patients are not kept away from their occupation for any length of time, and, finally, the overcrowded condition of our hospitals is relieved.

SURGICAL TREATMENT

The field for surgery in the treatment of fibroids is fairly well defined. All tumors extending above the umbilicus and, likewise, all large pedunculated, subserous or submucous fibroids should be operated on, for in these three classes radiotherapy is likely to produce a necrosis of the tumors. Cervical fibroids are equally unsuited for radiotherapy, and should be removed surgically. The same is true of suppurating, necrotic or gangrenous tumors and those which are undergoing cystic or calcareous degeneration. While the frequency of such secondary changes in fibroids is not very great, they constitute an important group which must be reserved for surgical intervention.

The age incidence in fibroids is a decisive indication for operation. This means that, as a rule, women under 40 should be operated on rather than irradiated. The younger the patient, the more clearly is operation advisable. In such individuals, the preservation of menstruation and the possibility of restoring fertility must be borne in mind, and an attempt should be made to enucleate the tumors and leave the uterus behind.

I had an interesting case of this kind only recently:

Case 3.—A woman, aged 31, consulted me in regard to her sterility. A surgeon had proposed hysterectomy to her because of multiple fibroids, which enlarged the uterus to about twice the size of a man's fist. I promised her that I would try to save the uterus and succeeded in shelling out four interstitial fibroids and one sessile subserous fibroid. Recovery was uneventful; the patient conceived seven months after the operation, and has since been delivered of a living child.

Even when the uterus cannot be saved and the organ has to be taken out in toto, we may be able to leave the healthy ovaries behind and thus prevent the disturbances of premature menopause which, as is generally known, are most distressing in younger women. There, is, then, in operations in women under 40 no unsexing, which, of course, is unavoidable in radiotherapy.

Fibroids complicated by ovarian tumors or tubal infections are to be subjected to operation.

Finally, an exact diagnosis, not only of an abdominal tumor but, if possible, of the kind of tumor we are dealing with, is necessary. If there is any doubt, operation is preferable to radiotherapy.

EITHER RADIOTHERAPY OR OPERATION

Under the two previous headings I have considered the indications for both rival methods as they have been definitely established and accepted by the majority of progressive gynecologists and surgeons. There is yet a third large category in which the indication for one or the other of the two methods is still under discussion, and in which for the time being the personal equation of the attending physician is allowed to play a part. This refers, first of all, to rapidly growing fibroids which for this reason are suspected of sarcomatous degeneration. The frequency of such degeneration varies within considerable limits. Such eminent authorities as Cullen and Lockyer estimate its occurrence as less than 2 per cent. of the cases, while other observers judge it to be as high as 6 per cent. It is quite legitimate to operate on these tumors. On the other hand, it is well known that sarcoma cells are very readily destroyed by radium or roentgen rays, and for this reason he who prefers radiotherapy on account of its greater safety is equally justified, provided he employs in all such suspicious cases at once a very much larger dosage, the so-called sarcoma dose.

Occasionally, fibroids are found associated with a carcinoma of the body of the uterus. What shall be our attitude in such cases? Our inclination will naturally be to perform a panhysterectomy, and this, if I may express a personal opinion, would be my own preference. But if there are contraindications to operation such as asthenia or lesions of other organs, radiotherapy may be administered with equal justification. It is of vital importance to establish the presence of a corpus cancer before treatment is instituted, and this should be done by a preliminary curettage which, indeed, should precede any intra-uterine radium application, even in cases in which there is no suspicion of malignancy. If it is still desired to use radium, the customary dose of 1,200 mg. hours should be increased to 3,000 mg. hours, and the treatment should be repeated within a few weeks.

The last group of cases in which either of the two methods may come in question are those fibroids which, by being incarcerated within the pelvic cavity, encroach heavily on bladder or rectum and interfere seriously with the function of these organs. Our natural inclination again would be to remove the offending tumor as quickly as possible; but there are quite a few very experienced observers—I mention only Doederlein and Reifferscheid—who have noticed a rapid shrinkage from radiotherapy, and for this reason advise making at least an attempt with radium (or roentgen rays), before resorting to operation.

CONCLUSION

An outline, such as has been attempted in the preceding pages, has certain drawbacks. It may seem too inflexible, at times too dogmatic. But an outline is just what its name implies—a sketching of broad principles, a résumé of observations and achievements and the lessons derived therefrom. This much is evident, that there is no antagonism between the two methods at our disposal. It is not permissible to divide the advocates of surgery and of radiotherapy into two

hostile camps. With the exception of a limited number of cases, there are well defined fields wherein either one or the other of the two methods gives the better results and hence has to be employed to the exclusion of the other. The man who administers radiotherapy indiscriminately disregards the best interest of his patients as much as the man who adheres exclusively to surgery.

Metropolitan Buliding.

MYASTHENIA GRAVIS

A THERAPEUTIC AND CLINICAL STUDY

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Myasthenia gravis, or asthenic bulbar paralysis, is perhaps not so rare a disease as was formerly thought. In 1900, Bramwell and Campbell could find only sixty reported cases. But in 1912, Starr compiled 250, and many cases have been reported since. In addition, it seems, as will be shown from the observations here recorded, that probably mild abortive types of the trouble are not infrequent, and that these ought to be and will eventually be recognized.

The present paper was prepared primarily to call attention to a therapeutic experience in the treatment of myasthenia gravis, and to give evidence of a rather better prognosis than is usually furnished in this disease.

I have noted that when a therapeutic article is presented to neurologists, there occurs a certain sagging of the facial muscles and a look of sorrow that a presumably trained mind should be wasting its energies and perhaps entering on a decline. This reaction might almost be justified in connection with the therapeutics of the disease I am discussing, for it has a natural tendency to remissions, and sometimes a case which seems hopeless will slowly begin to tend toward recovery.

Thus, myasthenia gravis is a disease for which almost any remedy might be made to appear to have some value. As a matter of fact, however, no one who has written on the subject has claimed that he has found anything which does more than appear sometimes to help, and the prognosis is generally stated to be very grave. Starr found that death occurred within six months in 45 per cent of cases compiled by him. Oppenheim states that twenty-six out of thirty-eight cases were fatal. Hun found that among 114 cases, fifty patients died, seven recovered and fifty-seven improved.

My observations cover a period of more than twenty-five years. Some of the patients have died from natural causes or other diseases. It is difficult, therefore, to present my experience in statistical form. However, I can say in general that none of my patients died of the disease while under my observation, and they were under such observation for from one to seventeen years; also that nine of the fourteen lived on for from two to seventeen years.

ABSTRACT OF CASES

The course of the disease in my cases can be best shown in the following abbreviated records. The term "duration" in the records means the period under observation and not necessarily the duration of the disease, or of the patient's life.

CASE 1.—J. W. S., a man, aged 54; 1892-1897; duration, five years; disease began, March, 1892; patient was well and at work, January, 1893; slight return, November, 1894; nearly well, January, 1895; pernicious anemia, January, 1896; died of pernicious anemia, September, 1897, at the time practically recovered from myasthenia gravis.

CASE 2.—H. S. B., a woman, aged 26; 1905-1906; duration, one year; disease began, January, 1905; first seen by me, March, 1906; improved, December, 1906.

CASE 3.—J. J. B., a man, aged 35; 1909-1910; duration, one year; seen by me, January, 1909; about the same, April, 1910.

CASE 4.—R. J. D., a man, aged 48; 1904-1911; duration, seven years; first attack, 1904; second attack, 1907; seen by me, April, 1909; nearly well, January, 1910; continued well as regards myasthenia gravis. He died of cancer in February, 1911.

CASE 5.—J. H. V., a man, aged 65; 1907-1920; duration, thirteen years; first attack, November, 1907; second attack, November, 1910; wrote that he was well, 1912. Died, aged 75, 1920. He did not have myasthenia gravis at time of death.

CASE 6.—A. W. K., a woman, aged 53; 1903-1907; duration, four years; first attack, 1903; second attack, 1905; seen, 1906; greatly improved, January, 1907.

CASE 7.—C. K., a woman, aged 18; 1912-1913; duration, one year. Disease began, October, 1912; had a psychosis, May, 1913; seen, October, 1913; practically well.

CASE 8.—E. K., a woman, aged 50; 1912-1913; duration, one year; disease began, April, 1912; seen, May, 1913, and was then greatly improved.

CASE 9.—J. G., a man, aged 47; 1912-1913; duration, one year; not followed up.

CASE 10.—Mrs. P., aged 33; 1913-1915; duration, two years; first attack, September, 1913; better, March, 1914; well, May, 1914; cancer of breast removed, October, 1914; second attack, March, 1915; well, June, 1915.

CASE 11.—S. P., a man, aged 69; 1920-1921; duration, one year; disease began, December, 1920; better, June, 1921; improved, November, 1921.

CASE 12.—M. L., a man, aged 33; 1906-1912; duration, six years; disease began, 1906; seen by me, 1910; improvement, 1911; recurrence and death, 1917.

CASE 13.—M., a woman, aged 36; duration, seventeen years; first attack, 1903; second attack, 1906; third attack, 1908; fourth attack, 1909; fifth attack, 1913; well, 1920.

CASE 14.—M., a man, aged 19; 1915-1921; duration, six years; first attack, 1915; second attack, 1916; third attack, 1917; seen in fourth attack, March, 1917; well, November, 1917; well at date, November, 1921, except for an occasional diplopia.

It will be seen that I report four recovered; three practically well; four improved; one not improved; one died of cancer; one died of the disease, and one not followed up.

None of the patients died within a year, and the duration under observation, was: one year, five; two years, one; four years, one; five years, one; six years, one; seven years, one; twelve years, one; thirteen years, one; seventeen years, one.

The difference in the course of myasthenia gravis, as shown above, is due, I think, in part to the treatment given the patients. They did not all receive or follow up this treatment, but those who did showed the best results. They were Cases 4, 5, 10, 11, 13 and 14.

Six other patients received treatment irregularly, or discontinued it. The patient who died of the disease received treatment irregularly and was for about half the time treated for cerebral syphilis, which he did not have. He lived six years.

REPORT OF THREE CASES

The method and result of treatment or the natural course of the disease may be shown in the detailed report of three cases:

Case 5.—J. H. V., a lawyer, aged 65, came to see me, Nov. 4, 1910. There had been apoplexy in the family; otherwise the history was normal. The patient had been well, active, hardworking, and a good deal of a talker. He had used tobacco, but not alcohol. He had been in the habit of keeping his bowels very freely open, to ward off apoplexy. About three years before I saw him, he had an attack which was called bulbar paralysis and which lasted three or four months. In the summer of 1910 his second attack came on, affecting first the tongue and lips, then the throat. He was of moderate height and weight, but rather spare build. His station and gait were normal. He had had diplopia, but it was not present at the examination, and he moved the eyes in all directions, the pupils being equal and reacting to light and accommodation. There was no ptosis. The lower lip drooped, and he could not close his mouth tightly or hold a cigar in his mouth, or whistle. He protruded the tongue and moved it freely. The palatal reflex was weak, the voice nasal, and he soon tired of talking. He could swallow only soft food, and it sometimes got in his nose, sometimes in the throat. After eating, he had a profuse flow of thick saliva. His grip was weak; in the left hand 40, in the right 60. The knee jerks were equal and not active; there was no Babinski reflex. He had no atrophy, fibrillary tremor or sensory or sphincter trouble. His blood pressure was 180; the urine and the heart were normal. He was placed on treatment. Four weeks later he was taking one-fifth grain (13 mg.) of strychnin sulphate twice a day. Soon after this he began to improve, and in two or three months he was well and back at his work. He continued well for the next ten years, dying at the age of 75.

Case 4.—R. J. D., a man, aged 48, seen by me in April, 1909, whose father was healthy and whose mother died of cancer of breast, had had malarial fever and typhoid. He had been a moderate drinker and smoker. He had an initial seizure in 1904, in the form of a short attack of diplopia. The second attack began in December, 1907, with trouble in swallowing. This lasted only a week. The third attack began in April, 1908, with difficulty in speaking and swallowing. This disappeared; but a little later he noticed trouble in chewing; his jaw would become weak and would cramp. Then trouble with swallowing developed again, and by September, 1908, he could hardly swallow at all, the food getting in the nose. He was then put on strychnin by his local physician. At first he got worse; but improved when he reached one-quarter grain (16 mg.) once daily. Then strychnin was stopped and he got worse. It was renewed and he improved. He had at this time diplopia and masticatory weakness, so that at one time he could not close his jaws. When I saw him in April, 1909, he could stretch out his lips, but could not whistle; his left lid drooped; the pupils and ocular excursions were normal; the reflexes were normal; there was no fibrillary tremor, atrophy, pain or anesthesia of any kind. His speech was clear, but soon weakened and got thick. He could chew, but soon tired. He could not mount his horse, or even mount a high step. He was then taking one-seventh grain (9 mg.) of strychnin twice a day hypodermically, and had taken ninety-two injections. I continued the strychnin in one-twelfth grain (5.4 mg.) doses twice a day. Urinalysis revealed: high indican; acidity, +; rest-nitrogen increased; purin-nitrogen, low; creatinin, decreased (Dr. T. W. Hastings).

The patient did not improve further for six weeks; then he began to get steadily better, and in January, 1910, he was practically well and continued so until in January, 1911, when he suddenly developed intestinal cancer, from which he died, in February, 1911.

Case 14.—Mr. F. E. M., aged 19, a student, examined in March, 1917, whose family history was negative, and whose parents were people of average height, was the oldest of four children, who were all well. In childhood he had scarlet fever, measles, diphtheria and appendicitis. In the fall of 1915, after a football game, when he was very tired, he noticed a drooping of one lid and diplopia. He recovered from this in about three weeks, but it returned in three months. Up to March, 1917, a period of a year and a half, he had four attacks, each lasting several weeks. These attacks at first affected only the left eye, but in February, 1917, the first and second fingers of the left hand began to drop, and the grip in each hand was weak. The patient was tall (6 feet, 2 inches [188 cm.]), muscular and had been in active athletics. He weighed 178 pounds. He had a very smooth face and no upper lateral incisors. The hair distribution was normal, except that the pubic hair was of feminine type. The genitals were normal, the form masculine. There was moderate drooping of the lids, the left more than the right; there was complete ophthalmoplegia externa. He could not move the eyes up or down, in or out, but he had no diplopia. The pupils reacted to light and accommodation. He was tired by mastication and he could not read out loud long, because his tongue grew tired. The facial muscles were normal, and he had no mask or parkinsonian attitude; gait and station were normal; there was no sensory disturbance. He could not at first easily open the closed hands (myotonia) though the grip was 90 and 80. The knee jerks were equal, exaggerated and were not exhaustible. There was no clonus or Babinski reflex. The galvanic and faradic reactions were not myasthenic (they often are not in this disease).

The patient was placed under treatment consisting of rest, elimination and strychnin. Two months later he was taking one-fourth grain (16 mg.) of strychnin twice a day hypodermically. He was better and stronger, the eyes were more open, but still immobile. He could now read out loud and talk without fatigue. The fingers of the left hand still drooped a little on extension. In early June he could move the eyes down a little, and late in June he could move them laterally. In November, 1917, he had gone back to work and was feeling strong and well. His eyes could move in all directions. There was a slight droop to the lids. The blood pressure had been about 150 both when standing and lying during the whole eight months, and the pulse between 90 and 100 standing and between 60 and 70 lying. It is now four years since I saw the patient, but his physician in October, 1921, wrote that he still had some slight trouble with his eye, but was otherwise well and was actively engaged in business.

SYMPTOMATOLOGY

This paper was meant to be a therapeutic one; but while my cases furnish nothing absolutely new to the symptomatology of the disease, they bring into special prominence the frequency of mild prodromal seizures, the character and length of the remissions, and the often prolonged and favorable course of the malady.

Prodromal Seizures.—Fifty per cent. of my patients had prodromal seizures consisting of diplopia or other symptoms of oculomotor weakness, with or without some bulbar weakness, shown in difficulty and fatigue in talking, chewing or swallowing. These attacks lasted usually only two or three months, but in some the patient is left with a residuum for one or two years. One case has been reported of a diplopia followed by the full attack thirteen years later (McEndree). Karplus reports a case in which diplopia occurred yearly for nineteen years; then myasthenia gravis developed.

It seems very likely that attacks like these abortive types, but which never are followed by any serious attack occur, but are not recognized. It may well be that third and sixth nerve palsies, which are seen so often and attributed to colds or casual infection, if studied would be found to have some myasthenic involvement, bulbar or otherwise. I have seen what might be called a myasthenic arm and a myasthenic leg palsy. These are usually considered hysterical. An intensive study of such attacks ought to be made.[1]

1. Some of the other premonitory symptoms that have been noted are headache and a sense of general weakness with vertigo, drowsiness, cardiac arrhythmia and extrasystole.

Attacks and Remissions.—After the definite and serious attack, lasting from three months to a year, occurs, there come remissions in which, however, the patient is not perfectly well, but has some diplopia, or tendency to bulbar or general muscular weakness. These remissions may last from one to three years or even longer, and may end in cure.

As illustrating the natural history of the disease, I would state that one patient had five attacks in seventeen years and is well now. Another patient had four attacks in one and one-half years and is well now. Five of my patients had only two attacks.

After a patient has passed through this very serious attack, later attacks are more amenable to treatment. This is my experience, but perhaps not that of others.

Myasthenic Myotonia.—A symptom not much referred to is the myotonia that sometimes occurs in the affected muscles. I had a patient who had a facial involvement, and when she smiled, "the smile would not come off." In another patient the flexed hand could not at once be opened, owing to a flexor myotonus. This could not be due to the strychnin, because it occurred before treatment was begun.

Etiology.—Most cases occur between 30 and 50. Mine ranged from 17 to 69. Women are a little more subject to the malady than men, but in my cases there were eight men and six women. Two were Jews. The others were native Americans of several generations.

I observed the usual suggestions of some hyperthyroidism, such as a slight exophthalmos or goiter. One case began in and one followed a pregnancy. One patient was very tall and of pituitary type. Thus, the view that there is a pluriglandular involvement finds some confirmation.

Exciting Causes.—The case of my patient whose first attack came on after a football game shows that violent muscular exertion is one of the exciting factors. Two of my men patients were great talkers—an abnormal form of activity for man. One patient was a pianist, and the trouble began in the fingers. One case occurred during and one after pregnancy. Two occurred after influenza and one after a fish dinner.

Diagnosis.—Myasthenia gravis is a disease which runs singularly true to type, so far as cases heretofore described show. Its onset, course and symptoms are very distinctive and the diagnosis easy, when the disease is established. Hun[2] says: "It is really surprising how accurately it [the disease] is duplicated by the great majority of the reported cases. Greater uniformity is met with in few diseases."

This is my experience. Furthermore, at present, I do not think that the disease can be with certainty diagnosed unless eventually it shows bulbar or eye symptoms, or unless without this the course of the disease shows remission and recurrence.

In one of my cases the disease began in the legs; in another in the hands; later came remissions and eventually in all there was bulbar or ocular involvement. It may be that myasthenia gravis attacks only an arm or leg, or the general locomotor muscular system, and stops at this. It would be interesting if this were established, which it is not. Perhaps it can be if the myasthenic electrical reaction is found. There is also this clinical characteristic: that when the affected muscles are tested by repeated voluntary effort, there rather rapidly develops complete exhaustion. In ordinary fatigue or neurasthenic states, this is not the case. In a neurasthenic arm, for example, the dynamometer is squeezed feebly to, say, 20 pounds (9 kg.); but after twenty trials, there is not much fall, while in a myasthenic arm the dynamometer in twenty trials drops to nothing.

It may be, however, that there are variant phases of myasthenia gravis or diseases which have a cousinship to it. Myasthenia gravis shows itself dominantly in the peripheral motor neuron and the muscles. In this, it is related to epidemic (lethargic) encephalitis, Landry's paralysis, poliomyelitis, paralytic rabies, periodic paralysis, botulism and diphtheritic and lead palsies. But it is in its rare acute form mostly like an acute descending paralysis of the Landry type, reversed.

Cases have been reported which lasted only twenty-one days and eleven days, running a course like an acute descending paralysis.

Pathology.—I have had one case of descending paralysis running a fatal course in two days. The disease began as myasthenia gravis often does, with a diplopia followed by paralysis of speech and deglutition, involvement of the arms, and death from respiratory paralysis. It was exactly like an acute *froudroyante* form of myasthenia gravis. Necropsy did not disclose any lesion of the central nervous system. Dr. B. H. Fairbanks has reported to the New York Pathological Society this and two similar cases, but of somewhat longer duration (two or three weeks).

These cases and the history of cancer or some other form of tumor in other cases, and of some thymus abnormality in nearly 50 per cent., lead one to think that myasthenia gravis is due to a selective toxin, and that the poison is endogenous and associated with a new growth or abnormality of the thymus, or other gland of internal secretion. This toxin attacks the peripheral motor neurons and muscles. It affects the special senses and also the involuntary muscular system (heart, intestine), but to a less extent.

The fact that lymphorrhages develop in the muscles is the best established one in its anatomy. This means a defective action of the lymphatic system. It may be reasoned that the fatigue products of muscular activity are not properly carried off as a result of lymphatic defect. The various metabolism studies have not yet led to any enlightenment. The disease is very mysterious, and deserves further intensive study.

The history, bibliography, clinical features and pathology of this disease have been thoroughly presented by various writers.

Oppenheim gives a complete history of the disease in his textbook. Bramwell and Campbell[3] compiled and analyzed all reported cases to 1900. Hun[2] reported cases to 1904. Tilney and Mitchell[4] gave the bibliography to 1907. Starr[5] compiled 250 cases and gave the bibliography to 1912. Rigard[6] gave the bibliography to 1913.

Whatever merit is due to the treatment of myasthenia gravis by massive doses of strychnin belongs to Dr. W. O. Bridges of Omaha, who many years ago sent a patient to me who had been apparently rescued from death (remission developed) by this method of treatment.

53 West Fifty-Third Street.

2. Hun, Henry: Albany M. Ann., January, 1904.

3 Bramwell and Campbell: Brain, 1900.
4. Tilney and Mitchell: Neurographs I, 1907.
5. Starr, M. A.: J. Nerv. & Ment. Dis, 1912.
6. Rigard: Thèse de Paris, 1913.

SPINAL DRAINAGE WITHOUT LUMBAR PUNCTURE

A NEW METHOD FOR INCREASING THE PENETRATION OF ARSENIC INTO THE SPINAL FLUID IN THE TREATMENT OF NEURAL SYPHILIS

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Success in the treatment of syphilis depends on obtaining specific medication of the tissues actively involved in the disease process.

The structures most accessible to the direct action of the remedial agents are the first to be rid of the invading organisms and the localized reaction to them. The areas of involvement in the central nervous system are apparently the least accessible to specific therapy because of the anatomic difficulties encountered in getting the drugs directly into these tissues.

Following the work of Gilpin and Earley,[1] attention was called[2] in 1917 to the fact that intensive intravenous treatment with arsphenamin followed by spinal drainage gave us an additional means of introducing arsenic into the subarachnoid space. During the intervening years the clinical results that have followed this method, in a large measure, have been satisfactory. However, a method has not been evolved in which the penetration of arsphenamin into the meninges and spinal fluid has been constant.

PRODUCTION, CIRCULATION AND ABSORPTION OF THE SPINAL FLUID

The cerebrospinal fluid appears to be derived from two sources: through the choroid plexuses in the cerebral ventricles, and from the perivascular spaces surrounding the central nervous tissues. The fluid formed in the lateral ventricles courses downward through the foramen of Monro to the third ventricle and, with the added fluid from the fourth ventricle, passes into the subarachnoid space through the foramina of Magendie and Luschka.

From numerous observations it seems evident that the spinal fluid is absorbed into the dural sinuses along the arachnoid villi and also along the sheaths of the cranial and spinal nerves, finally entering the lymphatic channels.

PERMEABILITY OF THE MENINGES TO DRUGS AND BACTERIA

Leri, Orifici, Cruchet and Rotky have all reported the presence of iodid or bromid in the spinal fluid of patients suffering with meningitis who had received these drugs by mouth for a considerable time. Osborne[3] has reported the finding of iodin in appreciable amount in the spinal fluid following intravenous injection of sodium iodid. He also states that the presence of meningitis increases the permeability of the meninges to iodin compounds in the blood.

Mehrtens[4] was unable to detect iodin in the spinal fluid after simple intravenous injection, but in individuals in whom a previous irritation of the meninges had been established by the injection of horse serum, iodin was demonstrated in the spinal fluid.

Wegeforth and Latham[5] quote five instances in man in which infection of the meninges occurred following the withdrawal of normal spinal fluid during septicemia.

Mehrtens and MacArthur[6] analyzed forty-four specimens of spinal fluid after simple intravenous injection of arsphenamin and obtained a positive test for arsenic in 43 per cent. In twenty-one individuals in whom complete spinal drainage had been done following intravenous injections of arsphenamin there was no increase in the number of arsenic penetrations over those found after simple intravenous injection. In forty subsequent cases when arsphenamin had been given following meningeal irritation, they report 92 per cent. of demonstrable arsenic penetrations into the spinal fluid.

Reiger and Solomon found that arsphenamin injected intravenously appeared in the spinal fluid in only 30 per cent. of the cases.

CHANGES FOLLOWING THE INJECTION OF HYPERTONIC SALINE SOLUTION

Weed and McKibben[7] were the first to show that intravenous injections of hypertonic saline solution caused an initial rise in the pressure of the cerebrospinal fluid followed immediately by a marked fall in this pressure, often to below zero; also that after these injections there is noted immediately a marked decrease in the size of the brain.

Foley and Putman,[8] under the stimulation of Harvey Cushing, have conducted a brilliant series of experiments on the effect of the ingestion of hypertonic saline solution in animals and man. They have repeated the work of Weed and McKibben and have confirmed their general conclusions. Their original conclusions, in brief, are that, "following the ingestion of hypertonic saline solution in cats, the average fall of cerebrospinal fluid pressure was 258 mm. of water." Following this fall in pressure there is a gradual rise until approximately the normal pressure is again reestablished. "Such changes in cerebrospinal fluid pressure were shown to be independent of changes in arterial or venous blood pressure. The manometer readings (pressure values) obtained after salt injection are not due solely to changes in brain volume and capacity of the cerebrospinal fluid spaces, but primarily represent new ratios between secretion and absorption of spinal fluid."

Foley[9] has more recently shown that the administration of hypertonic solutions causes alterations in the gross currents of the fluid which are incident to exten-

1. Gilpin, S. F., and Earley, T. B.: Drainage of Cerebrospinal Fluid as a Factor in the Treatment of Nervous Syphilis, J. A. M. A. **66**: 260-262 (Jan. 22) 1916.
2. Corbus, B. C.: Prophylaxis in Cerebrospinal Syphilis, J. A. M. A. **69**: 2082-2089 (Dec. 22) 1917.
3. Osborne, E. D.: Iodin in the Cerebrospinal Fluid, J. A. M. A. **76**: 1384-1387 (May 21) 1921.
4. Mehrtens, H. G.: The Passage of Drugs from Blood Serum to the Spinal Fluid, California State J. Med. **16**: 206 (June) 1918.
5. Wegeforth, P., and Latham, G.: Lumbar Puncture in Meningitis, Am. J. M. Sc. **158**: 183 (Aug.) 1919.
6. Mehrtens, H. G., and MacArthur, C. G.: Therapy of Neurosyphilis Judged by Arsenic Penetration of Meninges, Arch. Neurol. & Psychiat. **2**: 369-375 (Oct.) 1919.
7. Weed, L. H., and McKibben, P. S.: Pressure Changes in the Cerebrospinal Fluid Following Intravenous Injections of Solutions of Various Concentrations, Am. J. Physiol. **48**: 512-530 (May) 1919.
8. Foley, F. E. B., and Putman, T. J.: The Effect of Salt Ingestion on Cerebrospinal Fluid Pressure and Brain Volume, Am. J. Physiol. **53**: 464-476 (Oct.) 1920.
9. Foley, F. E. B.: Personal communication to the authors.

sive changes in the mechanism of cerebrospinal fluid absorption. This work is as yet unpublished, and the writer has very kindly furnished us with his conclusions.

Foley [10] studied the effect of the administration of hypertonic saline solution on the patients in the clinic of Dr. Harvey Cushing. By observing the changes in a decompression hernia he was able to show that the injection of salt produces a marked fall of cerebrospinal fluid pressure and a diminution of brain bulk.

The decompression hernia gradually recedes into the skull after an intravenous injection of 15 per cent. saline solution. The absorption of spinal fluid, as evidenced by the recession of the protrusion, is completed in from two to three hours. Reabsorption of spinal fluid and restoration of pressure, as evidenced by the return of the herniation, begins from six to seven hours after the injection.

The explanation for this phenomenon apparently lies in the increased osmotic properties of the blood plasma following the addition of a hypertonic solution. Fluid is drawn rapidly into the blood stream from all available sources: cerebrospinal spaces, the intestinal tract and other body tissues. This continues until the osmotic pressure in the fluid cavities outside the vessels is reduced below that within, and a return to equalization is then gradually accomplished by the replacement of these fluids from the blood, probably by the same channels through which absorption originally occurred.

The more recent work of Foley shows that so great is the upset in the normal relationship of the usual channels of the spinal fluid formation that shortly after the hypertonic solution enters the blood stream a complete reversal of the normal flow of cerebrospinal fluid in the perivascular spaces occurs. Even more interesting is the fact that intraventricular absorption of fluid occurs through the choroid plexuses and ependyma. This gives an indication of the extent to which the normal mechanism is upset, with a resultant rapid withdrawal of fluid into the blood stream.

The spinal fluid is restored from the blood stream, and this began about the sixth hour after 100 c.c. of 15 per cent. saline solution had been injected intravenously in the cases studied by Foley at the Peter Bent Brigham Hospital. How long it takes for a complete restoration of fluid content is not known, but from watching the reformation of a decompression hernia, he concludes that it occurs between seven and ten hours after the injection of the saline solution.

CLINICAL APPLICATION

As we were familiar with this work, it occurred to us that this phenomenon offered a possible method for increasing the amount of arsenic that would be carried into the spinal fluid after intravenous injection.

If the arsenic was injected just at the time when the increased restorative formation of spinal fluid was taking place, it seemed logical that a much larger quantity of arsenic should be carried into the subarachnoid spaces with the fluid.

TECHNIC

In the plan of treatment adopted, all patients were put to bed at least two hours before the injections were begun.

Admission to the hospital was generally at 8 o'clock on the morning in which treatment was instituted. Excepting for the general contraindications to the administration of neo-arsphanamin, there were no restrictions in the selection of cases for treatment.

At 10 a. m., 100 c.c. of hypertonic saline solution (15 per cent.), warmed to body temperature, was given intravenously by the gravity method. We prefer the gravity method, as it insures a slow, regular diffusion of the saline.

Immediately following the injection, the patient is conscious of experiencing a "feeling of warmth," which gradually increases, but never to an uncomfortable degree. Slowly the feeling of warmth passes down the back until it reaches the lumbar region, where it seems to be dispersed. The whole sensation lasts about ten minutes.

The pulse is accelerated during the "feeling of warmth," but whether this is due to the saline solution or to the apprehension of the individual we are not able to state. At any rate, within ten or fifteen minutes the patient has regained his equanimity, excepting for an increased thirst and an occasional increased micturition and defecation, and there is no untoward reaction. No food is permitted at midday. At the end of six hours, 0.9 gm. of neo-arsphenamin (Dermatological Research Laboratories) is given intravenously. In all of our cases this dose was well tolerated. In one or two hours, lumbar puncture was performed and from 10 to 15 c.c. of fluid was withdrawn. Careful readings of the spinal fluid pressure were tabulated.

Nourishment was given four hours after the neo-arsphenamin injection. All patients were kept in bed for thirty-six hours after the puncture. Excepting for a slight rise in temperature (which was easily accounted for by the neo-arsphenamin injection), there were no complications or distressing sequelae following this procedure.

The use of fresh, sterile distilled water for the administration both of the saline solution and the neo-arsphenamin is absolutely essential if one wishes to avoid any complications.

SUGGESTIONS FOR A TENTATIVE PLAN OF TREATMENT

As we believed in the possible efficiency of this method of treatment, a number of private patients were subjected to the foregoing plan, with certain exceptions.

The patients were subjected to a lumbar puncture. From three to seven days later the following technic was carried out: At 8 a. m. the patient entered the hospital. At 10 a. m., 100 c.c. of hypertonic saline solution (15 per cent.) was administered intravenously. At 4 p. m., 0.9 gm. of neo-arsphenamin was administered intravenously. At 9 p. m. the patient was permitted to go home. Caution was used in keeping the patients in bed the whole time.

The same treatment was carried out for five successive weeks, but at the end of the fifth injection lumbar puncture was performed and the spinal fluid was examined serologically; also a quantitative test for arsenic was made. When more intensive medication is desired, more frequent injections may be given.

It is not necessary from a therapeutic standpoint to perform lumbar puncture and drainage. This is done only when it is desired to study the cerebrospinal fluid serologically and quantitatively for arsenic.

The method of quantitative estimation of arsenic in spinal fluid, as recommended by Mehrtens, was followed with slight variations.

10. Foley, F. E. B.: Clinical Uses of Salt Solution in Conditions of Increased Intracranial Tension, Surg., Gynec. & Obst. **33**: 126-136 (Aug.) 1921.

RESULTS

The twenty-eight patients treated according to this plan, as reported in the accompanying table, all showed definite subarachnoid involvement.

In many of the cases the infection was latent and was discovered only after lumbar puncture with serologic examinations had been made.

All patients had been under treatment before coming under observation for this experiment, and every patient except one (Case 9) gave positive serologic findings at the beginning of treatment.

RESULTS IN TWENTY-EIGHT CASES

Case No.	Diagnosis	Previous Treatment	Amt., C.c.	Pressure, Mm. Hg	Cell Count	Wassermann Reaction	Arsenic
1	Cerebrospinal syphilis	Yes	14	8	1	Pos., 1 c.c.; neg., 0.5 c.c.	0.002 mg. per c.c.
2	Latent cerebrospinal syphilis	Yes	21	18	2	Pos., 1 c.c.; weakly pos., 0.5 c.c.	A trace
3	Cerebrospinal syphilis	Yes	21	10	2	Pos., 2 c.c.; neg., 1 c.c.	A trace
4	Tabes	Yes	18	16	1	Neg., 2 c.c.	0.01 mg. per c.c.
5	Cerebrospinal syphilis	Yes	37	20	0	Pos., 0.5 c.c.	A trace
6	Cerebrospinal syphilis	Yes	27	10	1	Pos., 2 c.c.; neg., 1 c.c.	0.001 mg. per c.c.
7	Cerebrospinal syphilis	Yes	30	10	1	Pos., 2 c.c.; neg., 1 c.c.	A trace
8	Latent spinal syphilis	Yes	25	10	4	Neg., 2 c.c.	A trace
9	Cerebrospinal syphilis	Yes	34	20	0	Neg., 2 c.c.	A trace
10	Latent spinal syphilis	Yes	25	9	3	Neg., 2 c.c.	A trace
11	Tabes	Yes	20	15	10	Pos., 0.5 c.c.	A trace
12	Cerebrospinal syphilis	Yes	20	26	1	Pos., 1 c.c.; weakly pos., 0.5 c.c.	0.0001 mg. per c.c.
13	Latent spinal syphilis	Yes	17	10	38	Pos. with 0.5 c.c.	A trace
14	Cerebrospinal syphilis	Yes	18	10	6	Pos., 1 c.c.; weakly pos., 0.5 c.c.	None found
15	Cerebrospinal syphilis	Yes	15	10	3	Pos., 1 c.c.; weakly pos., 0.5 c.c.	A trace
16	Latent cerebrospinal syphilis	Yes	13	8	2	Pos., 0.5 c.c.	A trace
17	Latent cerebrospinal syphilis	Yes	15	12	37	Pos., 0.5 c.c.	A trace
18	Latent cerebrospinal syphilis	Yes	20	9	7	Neg., 2 c.c.	A trace
19	Tabes	Yes	12	26	5	Pos., 1 c.c.; weakly pos., 0.5 c.c.	A trace
20	Cerebrospinal syphilis	Yes	12	20	0	Pos., 2 c.c.; neg., 1 c.c.	0.0008 mg. per c.c.
21	Tabes	Yes	17	18	0	Neg., 2 c.c.	0.0002 mg. per c.c.
22	Latent cerebrospinal syphilis	Yes	15	10	5	Pos., 1 c.c.; neg., 0.5 c.c.	A trace
23	Cerebrospinal syphilis	Yes	12	26	3	Pos., 0.5 c.c.	0.002 mg. per c.c.
24	Cerebrospinal syphilis	Yes	12	15	6	Neg., 2 c.c.	0.003 mg. per c.c.
25	Latent cerebrospinal syphilis	Yes	15	16	0	Pos., 1 c.c.; neg., 0.5 c.c.	None found
26	Latent cerebrospinal syphilis	Yes	24	10	9	Pos., 1 c.c.; neg., 0.5 c.c.	0.0004 mg. per c.c.
27	Tabes	Yes	26	16	2	Pos., 0.5 c.c.	Trace
28	Cerebrospinal syphilis	Yes	24	10	1	Pos., 0.5 c.c.	0.002 mg. per c.c.

Some of the patients obtained their first negative serologic findings following this form of therapy.

Careful manometer readings were made in each patient, but in every instance it was within normal (from 8 to 18 mm. of mercury) limits or slightly higher.

Arsenic was found in the spinal fluid in all but two patients (93 per cent). The amount of arsenic varied from a slight trace to 0.01 mg. per cubic centimeter.

CONCLUSIONS

1. The ideal time for intravenous injection of remedial agents is during the period of increased fluid formation by the choroid plexus and perivascular spaces. The active circulation of the spinal fluid along normal channels should result in a more uniform diffusion of the drug throughout the spinal canal as compared with the various forms of intraspinal therapy.

2. This method is simple and painless, and is devoid of all possible post-therapeutic complications and reactions.

3. The intravenous injection of freshly distilled, sterile hypertonic saline solution (15 per cent.) is followed by definite transitory symptoms.

4. The administration intravenously of neo-arsphenamin dissolved in freshly distilled sterile water at the end of six hours is likewise followed by no distressing sequelae.

5. The spinal fluid pressure taken at the end of eight hours is within normal limits.

6. Arsenic penetrations following this method are as constant as, or better than, any method that has been suggested up to the present time.

NEPHRITIS AND URINARY CALCULI AFTER PRODUCTION OF CHRONIC FOCI OF INFECTION

PRELIMINARY REPORT *

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During the course of numerous experiments on the localization of bacteria from various diseases, instances of extremely specific effects were noted. Some of these observations suggested that certain chronic diseases not generally believed to be due to infection might be reproduced if a more or less continuous supply of bacteria could be furnished through a focus of infection, and if the elective localizing power and the property to incite certain specific reactions could be maintained: two requirements which are difficult to fulfil when bacteria are grown on artificial mediums. Acting on these ideas, we performed a series of experiments in which the pulps of teeth in dogs were removed and the pulp chambers infected with freshly isolated bacteria from various diseases. We shall herewith describe briefly the method of conducting the experiments and report on results obtained in two diseases, nephritis and nephrolithiasis.

Eighteen vigorous, well nourished dogs were selected. Catheterized specimens of urine were normal in all. Roentgenograms of the kidney region, in the experiments on nephrolithiasis, were negative when the experiment was begun. During devitalization and infection of the teeth, the animals were covered with a sterile sheet, and kept under ether anesthesia by the intratracheal method. A rubber dam isolated the teeth to be worked on, the two lower cuspids in four dogs, and the four cuspids in ten. The teeth were scrubbed, sterilized with alcohol and tincture of iodin, and then cut off with sterile bone nippers midway between the incisal edge and the gum margin. The pulps were carefully removed with sterile broaches and, after the hemorrhage had ceased, the bacteria in dense suspension were introduced into the pulp chambers with fine capillary glass pipets. The canals were then sealed with impervious dental cement. These animals, and the control animals whose teeth were not infected, were

* From the Division of Experimental Bacteriology, the Mayo Foundation.

placed under hygienic conditions and fed a balanced diet of dog biscuit and meat. Catheterized specimens of urine were examined at intervals in all experiments and, in addition, roentgenograms were made of the kidney region in the experiment on nephrolithiasis.

One kidney was removed from each dog in from fifty-one to 104 days after infection of the teeth, to afford opportunity to compare the findings in the kidneys removed with the findings in the other kidneys at necropsy.

In the experiments on nephritis, the teeth of four dogs were devitalized and infected with a staphylococcus from the nose and tonsils of a patient with advanced nephritis. This strain had a marked affinity for the kidneys of rabbits, and produced pronounced lesions on intravenous injection.

Two sets of experiments on nephrolithiasis were performed, the first on two dogs, the second on twelve dogs. In the dogs in the first experiment, and in four dogs in the second experiment, the teeth were infected with streptococci isolated repeatedly from the urine of a patient with typical attacks of renal colic due to stones. The teeth of four other dogs in the second experiment were infected, as controls, with a mixture of streptococci from arthritis; and as additional controls, four dogs whose teeth were not infected were observed.

The duration of the experiments on nephritis ranged from sixty-three to 115 days: in the series on nephrolithiasis, from eleven to 123 days in the six dogs infected with the nephrolithiasis strain, from five to 120 days in the four infected with the arthritis strains, and from fourteen to 120 days in the controls in which the teeth were not infected. The four dogs in the experiments on nephritis developed lesions in the parenchyma of the kidneys. In three the lesions were more pronounced in the kidney examined at necropsy; in the other dog the reverse was true, and healing was well advanced. The lesions in the kidneys were essentially focal in character, often widely disseminated, and in some instances a large part of the parenchyma of the kidney was involved. The location and type of cellular infiltration and other changes resembled closely those of acute interstitial nephritis, which occurs often with infectious diseases. In one of these dogs marked cystitis and pyelitis, with secondary infection, were found, and in the adherent membranous exudate calcareous deposits had occurred.

The staphylococcus was isolated at the end of the experiment from the focus and the kidneys of the dogs. It manifested elective localizing power for the kidneys of rabbits when injected intravenously. It was demonstrated in the lesions, and proved absent in the normal portion of the kidney.

Striking as the findings in the kidneys were, the general picture in the dogs was somewhat different from that of patients with advanced nephritis. The dogs lost markedly in weight, they had no edema, and the urine contained relatively little albumin and few casts. However, the character of the lesions indicated that, if the experiments had been of longer duration, the picture might have become more like that of well advanced nephritis.

Five of the six dogs infected with the streptococcus from the urine of the patient with nephrolithiasis developed calculi; the sixth dog died too soon for stones to form. Calculi were found in both kidneys in four dogs. The size varied from small concretions to stones measuring 3 by 7 mm. (⅛ to $\frac{9}{32}$ inch) and was roughly proportional to the duration of the experiment. The findings in these dogs resembled those in patients in this condition. The stones were hard, angular and rough, and in chemical composition similar to those in nephrolithiasis in man. The evidence of infection of the urinary tract, and the lesions in the kidney were slight, except where obstruction in the ureter had occurred from impacted stone.

The causal relationship between the calculi and the streptococcus inoculated into the teeth seems established. The organism was isolated from the kidneys, from some of the stones, and from the teeth of the dogs, and its elective affinity for the medulla of the kidneys in rabbits on intravenous injection was demonstrated; it was found in the lesions of collecting tubules where crystallization and stone formation were beginning. None of the four dogs in which the teeth were infected with streptococci from arthritis developed stone, nor did any of the four additional control dogs which were kept under the same conditions, but whose teeth were not infected. The urine in all of these eight dogs remained normal, and the kidneys had no focal lesions.

Stones of the character obtained in these experiments were not found in another series of fourteen dogs which were kept under similar conditions and whose teeth were devitalized and infected with strains other than those from nephrolithiasis and nephritis, nor in a single instance in the examination of more than 500 dogs in connection with other experiments.

It is not clear why the four dogs infected with the streptococcus of arthritis failed to develop arthritis. There was active infection around the teeth in all instances, and the staphylococcus from the pulp chamber in one of the dogs inoculated four months previously retained its affinity for the joints of rabbits on intravenous injection. It would seem, therefore, that the joints of these dogs were not affected because of high resistance of these structures to invasion by this organism during the relatively short duration of the experiment, and not to encapsulation or loss of specific localizing power.

The experimentally produced foci of infection, aside from being the source of the organisms which localized electively, appeared to have a marked general deleterious effect. The dogs lost markedly in weight, lost much hair, and became susceptible to intercurrent infection. An active process was found in the devitalized and infected teeth at the end of the experiments. The findings around the teeth were similar to those following the artificial devitalization of teeth in man. The infected teeth became discolored, but remained firmly in place in the alveolar sockets; the infection caused rarefaction and absorption of bone in the periapical region, without swelling, pain or tenderness. The character of the cellular infiltration and the distribution of the bacteria of well formed granulomas were also strikingly similar.

The details of these experiments and further results along this line will be published elsewhere.

Administration of the Hospital.—A new era in the hospital world is opening. The day of self-made workers is passing. Those of the coming generation who have many advantages given them from the summing up of pioneer experience should value the interdependence of the hospital in all its internal aspects and also as a community health center, that it may be administered as an institution in the best sense of the word. —N. E. Cadmus and M. Le Jeune, *Hospital Social Service* **36**:352 (May) 1921.

A CONTINUOUS KNOTTED LOOP SUTURE

ITS FIELD OF APPLICATION

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The suture described in this paper was first used to draw together the margins of the wound after breast amputation.[1] Its advantage is that by its use as a relaxation suture the cutting pull or tension on each side of the wound is distributed among several points instead of being concentrated at one point.

In the closure of wounds, the margins of which are widely separated, as in those in which there is an extensive skin defect, sutures which will bring together the wound edges, or skin margins, and hold them coapted, resisting the sometimes unavoidable tension without cutting out, are obviously helpful.

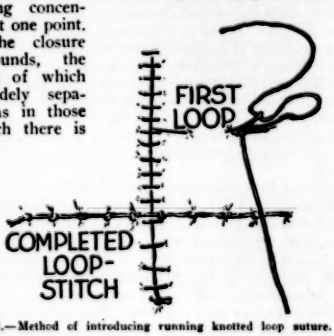

Fig. 1.—Method of introducing running knotted loop suture.

For the purpose of relaxing the tissues immediately along the wound margin, heavy interrupted sutures are usually passed at a distance of 1 inch (2.5 cm.) or more from the wound line on each side, and these, to some extent, take the strain from the coaptation sutures.

Such relaxation sutures, however, do not differ essentially from the coaptation sutures applied closely along the wound margin. Their slight advantage consists in the fact that they are usually of heavier material and, passing through the skin at a greater distance from the wound, the likelihood of their cutting out is lessened, since they may cut for a considerable distance without splitting the skin quite to the wound edge. If an ordinary continuous suture breaks at any point, the wound margins must fall apart, unless the closure is otherwise reinforced. Here dependence is placed on a single strand. Infection, if it should occur, tends to travel along a continuous suture. These perhaps somewhat captious objections do not apply so clearly to interrupted sutures.

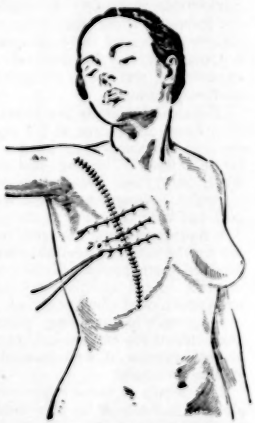

Fig. 2.—Running knotted loop suture relieving tension in breast amputation wound.

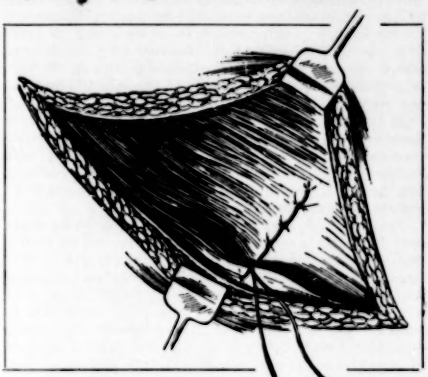

Fig. 3.—Continuous knotted loop suture approximating conjoined tendon and Poupart's ligament relaxing tension.

By most surgeons it is felt that accurate approximation of wound edges, particularly after operations for malignant disease, is very desirable. Until more is known of the origin and nature of cancer, the lurking possibilities of a granulating surface with its embryonal cell elements will occasion uneasiness until healed over. Even skin grafts with their active cell proliferation can hardly have the confidence that is given to normal skin. The practice of approximating the wound edges by separating the skin from its attachments over a large area with consequent diminution of blood supply is not infrequently followed by sloughing, which greatly increases the difficulties which militate against primary covering of the defect.

Fig. 4.—Running knotted loop suture used to control bleeding before abscission of omentum.

Clearly, it should be the maxim of every surgeon to have no thought of the covering of the defect while engaged in the radical removal of every vestige of malignant or suspected tissue. The manner of repairing the defect is a matter of no importance until the operation proper is complete. When a thorough operation, however, has been completed, at least a part of the defect can always be covered by precise coaptation of wound margins without unsafe tension.

The running loop suture shown in Figures 1 and 2 holds the margins together more firmly than any relaxation suture with which I am familiar; moreover, it

1. Eastman, J. R.: The Approximation of Widely Separated Wound Margins, J. A. M. A. 55: 2283 (Dec. 31) 1910.

V. 192

will not cut out unless the pull is very great indeed, for here the tension is distributed over many points instead of two, as in the case of ordinary relaxation sutures. In the case of the running loop suture shown in Figure 1 there are nine loops; therefore the tension is divided among ten points, and if several sutures of this character are used to reinforce the coaptation sutures, the wound margins, for example after a breast amputation, may be brought together under tension without subsequent separation and without cutting out of the sutures.

In breast surgery these relaxation sutures can be applied best after the wound edges have been coapted in the customary manner. They are introduced in much the same manner as a sewing machine applies the chain stitch, but differ from a chain stitch in that each loop is secured by a "hard" knot before the next loop is taken.

Beginning about 2½ inches (6.3 cm.) from the wound margin, the needle is passed under the skin in the direction of the wound edge and brought out about 1 cm. (⅜ inch) nearer the wound edge than it entered. The long suture is drawn through to a point near its middle and tied with a reef or hard knot, as if one were tying off a blood vessel, the knot falling over the aperture of exit or the opening nearer the wound line. In other words, the suture is passed under the skin for 1 cm. (⅜ inch), and both ends are tied over the opening next to the wound. The needle is then passed back through the hole under the knot for the second loop, and the long ends are tied again over the opening at which the needle emerges. The loops are carried across the wound line, and as many are taken on the opposite side as the tension that is to be overcome makes necessary.

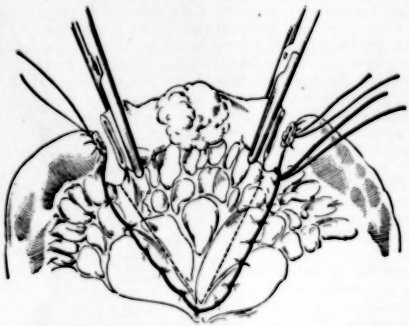

Fig. 5.—Knotted loop suture used to control hemorrhage in mesentery before resection of intestine.

It is customary practice to apply two or three such knotted chain sutures after breast amputations if there is considerable traction on the coaptation sutures. Three, about 1 inch (2.5 cm.) apart, placed where the traction is usually greatest, that is, near the middle of the wound line, usually suffice.

The knotted loop suture may be utilized in drawing the internal oblique and transversalis muscles to Poupart's ligament in cases of very wide inguinal hernia (Fig. 3). Likewise the conjoined tendon may be drawn and held to Poupart's ligament if several loops of the chain stitch are applied across it. Whereas an ordinary suture in hernia with wide separation often simply splits off a narrow ribbon from the edge where the needle perforates the internal oblique and transversalis muscles, the knotted loop suture will pull over the whole muscle mass without injury.

The splitting of the conjoined tendon for the purpose of relaxation, and the division of the rectus sheath

Fig. 6.—Simple over and over suture for control of bleeding of mucous membrane in gastro-enterostomy.

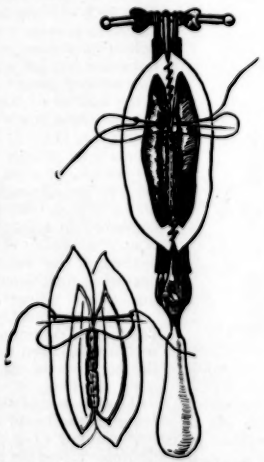

Fig. 7.—Cobbler's stitch in gastro-enterostomy.

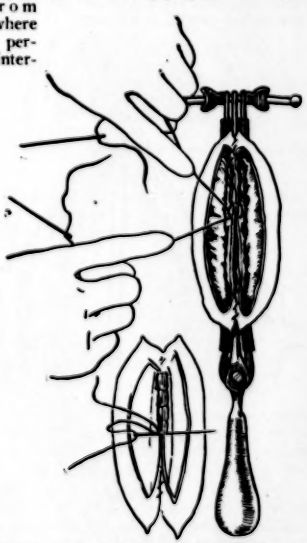

Fig. 8.—Author's running knotted loop suture for control of bleeding mucous membrane in gastro-enterostomy.

with or without transplantation of the belly of the rectus, while they are helpful practices in some cases, may be dispensed with often, if the knotted loop suture here described is used.

The continuous knotted loop suture serves admirably to tie off and secure the blood vessels in a mass of omentum before its abscission (Fig. 4). Here it is just as efficacious as a series of interlocking ligatures embracing the entire thickness and width of the omentum, and can be introduced in about one-third the time consumed in applying the ordinary interlocking loops. A similar use of the continuous knotted loop suture consists in its application to secure the blood vessels of the mesentery before resection of the V-shaped piece of mesentery along with a segment of intestine in resection of the intestine (Fig. 5). The continuous knotted loop hemostatic suture traverses the entire length of the V-shaped incision. It provides perfect hemostasis, and its introduction in the mesentery is very simple and expeditious.

I have used the suture a number of times for the through and through suture or hemostatic suture of the mucous membrane in gastro-enterostomy. Most surgeons at this time have abandoned the simple over and over running suture of catgut as the hemostatic suture in this operation, preferring for this use the cobbler's or harness maker's suture. The author's knotted loop suture will accomplish all that is accomplished by the cobbler's stitch; it will give even greater security against bleeding, and it is introduced more quickly and without the annoyance that is caused by using the suture with a needle at each end (Figs. 6, 7 and 8).

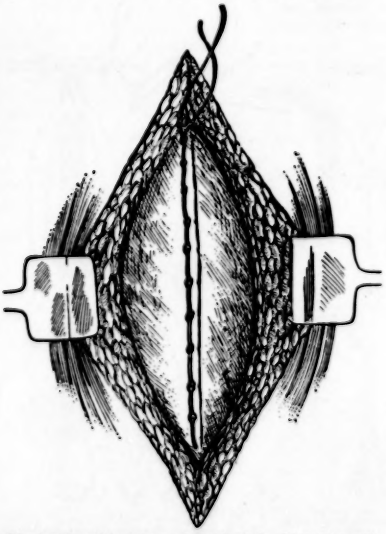

Fig. 9.—Knotted loop suture closing fascia in abdominal wound.

In closing the fascia of abdominal wounds, one hardly dares to trust to the ordinary continuous single strand suture, which, if it breaks at one point, permits opening of the entire length of the fascia wound. Here the knotted loop suture gives all the security of interrupted sutures, and is applied almost as quickly as a continuous suture (Fig. 9). It may be used likewise to sew down the overhanging apron of fascia in the Mayo operation for umbilical hernia (Fig. 10). It is,

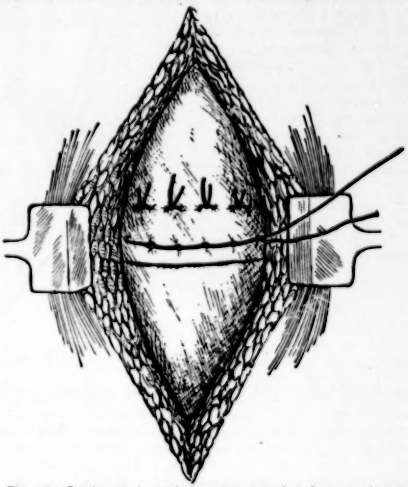

Fig. 10.—Continuous knotted loop suture sewing down overhanging apron of fascia in Mayo operation for umbilical hernia.

of course, applied after the stout mattress sutures have been tied. If one desires to use a circular hemostatic suture to provide a local area of ischemia in the scalp before operations on the cranium, in order that the horseshoe incision within this area may be bloodless, the knotted loop suture fits this purpose admirably, giving better control of hemorrhage than the drop-back continuous chain stitch used by Heidenhain for this purpose (Fig. 11). It is not always prudent to use such a suture to provide this ischemia of the scalp before operating. In some cases it will be found that at the close of the operation when such a suture is removed, an additional twenty minutes or half hour must be consumed in tying every tiny bleeding vessel of the scalp; whereas, if mouse-tooth forceps had been applied at the outset, and left in place during the operation, there would be little time consumed in ligating vessels. However, if it is desired to get into the cranial cavity quickly and without bleeding, the use of the circular continuous knotted loop hemostatic suture, with a soft jawed rubber covered clamp applied across the base of the flap, will obviate the annoyance of scalp bleeding.

Another use of the knotted loop suture is made in tying off the broad ligament as in subtotal abdominal hysterectomy (Fig. 12). In those cases in which it is desirable to use the clamp method and tie off the broad ligament with several loops of catgut, the single running knotted loop suture can be applied very quickly and securely, the first loop embracing the artery of the round ligament and the ovarian artery, and the last loop securing the uterine artery.

In the Langenbeck or similar flap operations there will be much less likelihood of separation of the wound margins and consequent failure of union if the mat-

tress coaptation sutures, after being reinforced by a simple running suture, are further supported by a continuous relaxation suture passing round the free edge of the anterior palatine arch [2] (Fig. 13).

The anterior part of the soft palate for a distance backward of 8 or 10 mm. (5/32 or 3/8 inch) from the edge of the hard palate contains practically no muscular fibers, being composed almost entirely of palatine aponeurosis. Therefore the anterior portion is much less movable than the rest of the soft palate. The tensor palati acts on this part of the palate, but as this is usually divided when the Langenbeck flaps are dissected up, it is not an important factor in causing separation of the wound margins. The posterior and large part of the soft palate contains muscular fibers in abundance and is freely movable, being the portion on which most of the palatine muscles act. The supporting or relaxation suture referred to follows the course of the palatoglossus muscle or constrictor isthmi faucium. As a rule, the use of this arch suture obviates the division of the levatores palati and palatopharyngei muscles. This affords a decided advantage, since the section of these muscles reduces the blood supply to the flaps and can have only a harmful effect on subsequent phonation.

The running knotted suture is introduced by passing a small curved needle bearing the long linen or hemp thread through the edge of the anterior palatine arch on one side near its base—that is, near the side of the tongue. The thread is drawn through to its middle and secured with a reef knot leaving the tail of the suture long. At a distance of 3 or 4 mm. (1/8 or 5/32 inch) from the first or outermost knot the needle is again passed through the edge of the arch; the tail of the suture is taken up, and another reef knot tied. This process is continued around the anterior palatine

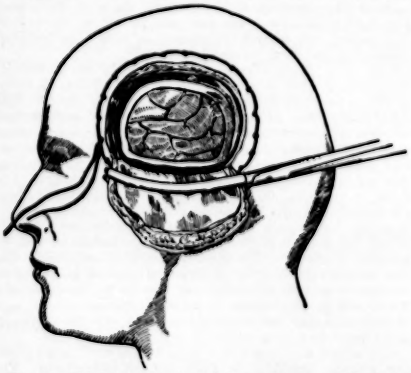

Fig. 11.—Circular running knotted loop suture to provide area of ischemia in cranial operations.

arch to its base on its opposite side, the suture crossing in front of the base of the uvula.

Such a suture immobilizing the anterior palatine arch reinforces the coaptation sutures against the traction incident to deglutition. In cases in which there has been failure of union in the anterior part of the soft palate, the use of the arch suture described has established union of the posterior part of the soft palate, followed promptly by closure through granulation of the forward defect. Such a suture is much more secure than the mattress suture for the reason that tension is distributed over eight or ten points instead of but two, and the danger of cutting out is proportionally lessened.

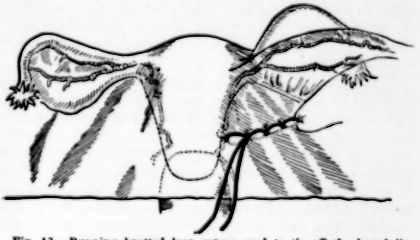

Fig. 12.—Running knotted loop suture used to tie off the broad ligament in subtotal hysterectomy.

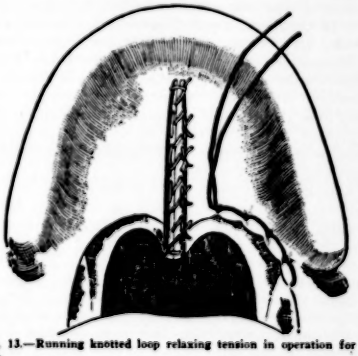

Fig. 13.—Running knotted loop relaxing tension in operation for cleft palate.

331 North Delaware Street.

2. Described in Lancet, Aug. 1, 1914.

DERMATOMYOSITIS, WITH REPORT OF TWO CASES *

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We may define dermatomyositis as an acute, subacute or chronic disease of unknown origin, characterized by a gradual onset, with vague and indefinite prodromes, followed by edema, dermatitis and a multiple muscle inflammation.

The disease is generally ushered in with symptoms of malaise, anorexia, or pains in the extremities, and those in the prime of life and in the most vigorous health are usually affected. These symptoms may be of several days' or up to three weeks' duration. At onset, the pain is vague and is usually accompanied by rigidity in the extremities and back. Soon it is more definitely located in the muscles, which may be attacked successively in different locations until the whole mus-

* Read before the Hartford County Medical Association, Nov. 1, 1921.

culature may be implicated. Later the pain increases in severity, being spontaneous in origin or occurring on voluntary motion. It is drawing, tearing or boring in type, causing the patient finally to become bedridden. About this time, the muscles become exquisitely sensitive to touch, and occasionally troublesome contractures are observed.

With the fever, edema appears which is not symmetrical in appearance and may invade the entire body and extremities. It is usually first seen above the eyelids or elsewhere on the face, and it produces an immobile cast of countenance. It is always observed in the extremities, the proximal parts being especially prone to involvement, while the wrist and ankle joints are usually spared. The edema may be either hard or soft in character, and may be localized over the affected parts or spread to surrounding areas.

An early symptom is a dermatitis, which is most protean in type, the eruption in different cases resembling an erythema, a pseudo-erysipelas, an urticaria, a roseola, an eczema, or an inflammation resembling erythema nodosum. It may invade the entire body or remain localized. Rarely, it occurs late in the disease. Whenever it is seen, however, it is almost always noted over the diseased muscles, and on disappearing may leave either no trace or a patch of pigment. In exceptional instances, the eruption may successively present two different types.

Fever is usually noted early in the disease, and is of moderate severity, intermittent or remittent in type. Profuse perspiration and an enlarged spleen are also usually present, and stomatitis or angina may be noted early or late in the affection. The involvement of the muscles of respiration and deglutition explains the number of fatal cases due to bronchopneumonia or suffocation. Paresthesia, as revealed by the feeling of formication, has been observed in four cases and, in the later stages of the disease, peculiar cramplike pains may be of frequent occurrence. The knee jerks and the electrical reactions may be diminished. The urine may be normal or may contain albumin with hyaline and granular casts. The duration of acute cases is from one to two weeks, the subacute from two to eight months, and the chronic forms from a year and a half to two years.

If, in the diagnosis of suspected cases, the edema, dermatitis and the progressive involvement of groups of muscles are borne in mind, a proper differentiation can readily be made. It is interesting to note that in one case scleroderma had previously been diagnosed, while another later proved to be a typical example of this condition. In a series of twenty-eight cases which I studied some years ago, seventeen had a fatal outcome; so the prognosis is grave. If the muscles of respiration and deglutition are involved, death may ensue from suffocation or bronchopneumonia. If the heart muscle becomes implicated, death invariably results.

Rest in bed, to cause the inflammation of the muscles to subside, is the main indication in treatment. Thermomassage at the onset or later, followed by massage, gymnastic exercises and electrotherapy, has been recommended by Oppenheim. Acetylsalicylic acid, the salicylates or morphin may be required for the pain, according to its intensity.

The subjoined case histories present two examples of this affection which I have seen recently:

REPORT OF CASES

Case 1.—R. G. P., a girl, aged 3½ years, seen by me in Middletown, Oct. 24, 1920, in consultation with Dr. James T. Mitchell, complained of soreness throughout the body. She had had measles and impetigo contagiosa. September 5, some redness under both eyes and edema of the eyelids were observed by a physician, who diagnosed the condition as ivy poison and gave her treatment for it. September 18, she was first seen by Dr. Mitchell, who noted a dermatitis under her eyes and around her mouth. She also had some edema of the eyelids and face, which subsequently was transitory, coming and going with marked irregularity. Soon two blebs on the inner malleoli of both lower extremities developed, and a marked edema of the thighs was observed. Shortly thereafter, an eruption, bleblike in character, traveled up both lower extremities and to a lesser extent appeared on the back. Next, the arms exhibited marked edema, and muscle soreness was complained of when the patient was moved. About this time the two blebs on both inner malleoli opened spontaneously and discharged some seropus. October 17, a systolic heart murmur was detected. The bowels had been moved daily by medication. The urine was somewhat diminished in output, but otherwise was normal. The appetite was good. There had been no fever until September 24, and at no time had it been high. The muscle soreness had only occasionaly been complained of until the patient went to bed, October 1. After this, the soreness became more marked, and during the last week of illness it was intense, on the slightest motion.

The patient was well built and well nourished, with a large patch of erythema about both eyes and the forehead; the face was markedly swollen and edematous, both eyes being partly closed. The thorax also was slightly swollen, but the lungs were negative. The heart was enlarged 3 mm. (one-eighth inch). No thrill was detected at the apex; but a well defined systolic murmur was here audible, and was heard, though less audibly to the back and upward to the base. The pulmonic second sound was slightly accentuated. The pulse was 160, regular in force and rhythm, and of good volume and tension. The abdomen was negative, but the arms were much swollen and edematous, except at the wrists. The legs were in like condition from the thighs down to the ankles. The ankles, however, were free and normal in appearance. The patient subsequently developed an attack of bronchopneumonia, and died, November 4.

Case 2.—J. M., a woman, aged 45, seen by me in Middletown, Jan. 8, 1921, in consultation with Dr. James Murphy, had been admitted to the Middlesex Hospital, Dec. 24, 1920, complaining then, as also when I saw her, of stiffness and soreness in the arms and legs. The family history was unimportant; the patient had been remarkably healthy. She had had influenza in a mild form two years before. She had been married twenty-five years, and had had three children, two dying in infancy. She also had had two stillbirths, without any apparent cause. Two weeks before admission to the hospital she had caught cold, and on the following day had found that she could not move. She complained of marked soreness in the arms and legs, especially on palpation. The extremities soon became swollen and edematous, the arms apparently being first affected, the left sooner than the right. After two to three days, a papular eruption, which soon became vesicular and vanished, appeared over the abdomen. The bowels had been moved by medication daily.

The patient was stout and well built. The pupils were equal, but reacted sluggishly to light and accommodation. The tongue was coated with a thick white fur, and the teeth were in bad condition. The lungs showed a well defined area of bronchopneumonia at the left base. The heart was slightly dilated and revealed a soft systolic murmur over its area, loudest at the apex. The pulse was 100, regular in force and rhythm, and of good volume and tension. The extremities were markedly swollen and edematous. They were also extremely sensitive to pressure and on the slightest movement. The reflexes were absent. December 28, blood examination revealed: hemoglobin, 90 per cent.; red blood corpuscles, 4,450,000; leukocytes 9,500. A differential count gave: polymorphonuclears, 68 per cent.; lymphocytes, 28 per cent.; large mononuclears and transitionals, 3 per cent.; eosinophils,

V. 192

1 per cent. Six days later, the leukocytes were 9,300, but no other change was noted. The Wassermann reaction was negative. The urine was negative, save for a trace of albumin. The renal function was 35 per cent. for the first hour, and 12.5 per cent. for the second hour, making a total of 47.5 per cent. Jan. 9, 1921, she complained of difficulty in swallowing. This symptom was more marked on the day following, when she became markedly cyanosed, and died suddenly by suffocation. During her stay in the hospital, the temperature varied from 100.8 to 101.6 F., until the last three days, when it steadily rose, being 106 F. shortly before death.

CONCLUSIONS

Dermatomyositis has previously been somewhat overlooked, but is a disease readily recognized if the definite symptoms of edema, dermatitis and a multiple muscle inflammation are properly considered.

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THE RELATIONSHIP BETWEEN XEROPHTHALMIA AND FAT-SOLUBLE A *

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This problem was taken up to determine, if possible, the relationship between the fat-soluble A vitamin and xerophthalmia, as well as other features present in the disease which might be etiologic factors in producing this condition.

Since the disease was first noted, many workers have attacked this problem from several different angles. The results obtained have varied in the extreme; thus, Emmet claims to have produced xerophthalmia in 120 out of 122 rats on the fat-soluble A free diet, or 98 per cent. Osborne and Mendel produced the condition in sixty-nine out of 136 rats, or approximately 50 per cent. Stephenson and Clark were successful to the extent of 28 per cent., and question the condition as a true deficiency disease. There have been many other observers whose results lay in between those above, some of whom apparently felt that the main factor in the disease was not the lack of fat-soluble A. Bulley summarizes his work by stating that, with the avoidance of initial infection, experimental animals can be kept almost entirely free of this so-called deficiency disease whether fat-soluble A be present or absent, and that it is dangerous to draw conclusions as to the fat-soluble A content of any diet from the appearance of xerophthalmia.

Wason, in a study of the pathology of the condition, states that no fundamental data concerning the etiology of ophthalmia in rats on deficient diets have been found by anatomic studies. Evidence by many observers leads to the belief that the condition primarily cannot be due to bacteria or to the degree of cachexia. Rats under the same hygienic conditions and on the same diet exhibit corneal changes, if at all, at varying intervals of time and degree; and in some cases considerable time elapses between the inception of the disease in the two eyes of an animal. She draws an analogy between the specificity of chloroform for liver cells, of mercury for the epithelium of the tubules of the kidney, of tetanus toxin for the nervous system, and of the absence of fat-soluble A to corneal lesions.

Along somewhat similar lines, except that the observations were on human beings, Black believes that xerophthalmia and dystrophy in young children is caused by deprivation of fat-soluble A, as is shown in Denmark, where margarin was substituted for butter. Wells has made similar observations in Roumania. Hess and Unger state, with regard to rickets, that fat-soluble A is not the controlling factor, as infants develop this condition while on full diet, and that the danger to infants of a diet deficient in fat-soluble A is slight, provided it includes sufficient calories, and is otherwise complete. They further cite five infants, aged from 5 to 12 months, fed on a diet deficient in fat-soluble A for eight or nine months, who showed no anemia or eye or bone changes, and whose growth did not suffer. Their inference is that a very small amount of vitamin suffices human needs, and that deficiency has to be maintained for a period of years to bring about harmful results.

In my work, two groups of rats were used, the first fed on the standard ration of 18 per cent. protein (casein in which the fat had been extracted by means of alcohol, two washings, and ether, three washings) plus the other ingredients, salt mixture 5, cornstarch 100, autoclaved lard 30, yeast extract (Fleischmann's yeast extracted with alcohol and autoclaved, 5 c.c., and agar agar, 5 gm.). The rats were placed in cages so constructed of tin and wire netting that "relative" asepsis was possible, the cages being cleaned often.

The second group of rats was fed on a somewhat modified diet, as it was felt that possibly a small amount of fat-soluble A might have found its way into the food because of the method of preparing the casein. On this account the protein was reduced in amount from 18 to 9 per cent. for half of this group, and to 6 per cent. for the remainder. The amount of carbohydrate was increased 25 per cent. to see whether it had any bearing on the condition. The other ingredients in the food were used in the same proportion as in the first group. Two and sometimes three rats were placed in each cage.

The majority of the rats in the first group increased in weight for some weeks; then a small number began to lose weight and a few remained stationary, while the remainder, especially the heavier rats, gained in weight slowly—in fact, they seemed to thrive on this diet. In this group of sixty-four, five developed sore eyes, one case of which was monocular. The ocular condition developed not sooner than the sixth, and as late as the eleventh week. In all cases the body weight had begun to decline, and the rats were in such a weakened condition that soon after, from three to ten days, death ensued. Treatment of the eye by irrigation (mercuric chlorid, 1:3,000, protargol, 2 per cent.) did little to arrest the condition.

A somewhat similar result was obtained in the second group except that all rats lost weight more rapidly than those in the first group, and of the thirty-eight, six developed sore eyes. Two of these cases were monocular, and four were binocular. The rats succumbed much more quickly to this diet, in fact, 30 per cent. died after the first three weeks; but a few (six) lived on at a stationary weight despite the dietetic deficiency, showing no signs of xerophthalmia throughout the test.

As soon as the ocular condition began to manifest itself, smears and cultures were made with the result that the organism present was found to be a large coccus, not unlike an attenuated staphylococcus. Attempts were made to transfer from the diseased rats' eyes to those on the same diet, and in the cases of monocular disease from one eye to the other with no result. The eyes of the diseased rats were removed, placed in formaldehyd solution, and later sectioned and stained. The cornea was the only tissue showing

* From Hull Physiological Laboratory, University of Chicago.

marked changes, and those consisted of infiltration of lymphocytes into the epithelium, Bowman's membrane and in some cases the interstitial layer.

After such nearly negative results as I obtained, and after summarizing the results of others, I am moved to ask these questions:

Is there a definite relationship of fat-soluble A to xerophthalmia, and is it the controlling factor as some would have us believe, or is the lack of fat-soluble A only an "accessory after the fact"? If the first assumption is true, then why not the ability to produce the disease readily and in all cases? If the latter assumption is true, what is the real underlying factor causing the disease? It is admitted that certain conditions are usually necessary, i. e., the low protein diet and secondary infection; but even with these present the disease does not develop in the greater majority of instances. Further, it has been noted by several observers, as by myself, that the disease at times involves only one eye, and that inoculation of the sound eye with the discharge from the other fails to incite the condition. Can the lack of sufficient fat-soluble A, then, be responsible for such an apparently inconsistent result?

Somewhat akin to the work and results on animals are the observations on children who have developed dystrophy, rickets or phlyctenular disease. As has been noted, these conditions apparently are cured by means of food containing sufficient fat-soluble A in some cases, while in others the lack of fat-soluble A in the diet even over a long period has no effect. In the same category are the underfed and ill nourished children of the ghetto, some of whom develop phlyctenular disease, while brothers or sisters in the same family and living under the same condition fail to show any manifestation. It may be added that, from my personal experience in a large clinic, many of these cases are stubborn, responding very slowly if at all to increase of fat-soluble A in milk and the curtailment of carbohydrates.

What, then, can be the factor or factors which cause a disease which manifests itself only at times under the same condition? Is it that there is an hereditary predisposition or idiosyncrasy?

This possibility was suggested to me by Prof. A. J. Carlson during the progress of this work. Guyer's experimental work on hereditary eye defects may be cited wherein he has transmitted through many generations certain specific ocular anomalies. The most significant fact from a biologic standpoint is that specific antibodies can induce specific modification in the germ cell, and the whole question hinges on whether changes in an animal's tissue will induce the formation of antibodies or kindred active substances in its own body. It is rational to assume that changes in various parts of the body may occasionally influence the representatives of such parts in the germ cells borne by that body. Therefore is it not within the limits of reason to assume, in the face of evidence pro and con relative to the etiologic factor or factors in xerophthalmia, that hereditary predisposition is the base, and that lack of sufficient fat-soluble A or low protein diet, combined with infection, will bring about the disease? If this assumption is true, most of the anomalous or erratic manifestations can be explained under it.

SUMMARY

1. The lack of the fat-soluble A vitamin produces xerophthalmia in a variable percentage of experimental animals.

2. Since lack of this vitamin in combination with a low grade infection does not induce the disease in all animals, there is obviously another factor, or factors, not yet worked out.

3. Hereditary predisposition might explain the widely variable and anomalous results obtained by workers in this field.

CHAULMOOGRA OIL IN THE TREATMENT OF TUBERCULOUS LARYNGITIS

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Chaulmoogra oil has been used with considerable success in the treatment of leprosy, and recently experiments have been made on tuberculous animals; but to the best of my knowledge, it has not been tried on the laryngeal lesions of human subjects. My attention was first called to this oil as a possible remedy in the treatment of tuberculous laryngitis by Dr. John I. Fanz.

Chaulmoogra oil treatment was begun, Feb. 4, 1921, at the Department for Diseases of the Chest of the Jefferson Hospital and at the Henry Phipps Institute of the University of Pennsylvania. This report gives the results of sixty cases treated over a period of eight months. The treatment has been conducted more to learn the effects on the pathologic lesions of the larynx and the symptoms than on the tubercle bacillus itself, for laboratory studies have shown that this oil is not a tubercle bacillicide.

Chaulmoogra oil gave promising results from the beginning in cases in which there were dysphagia and pain in the throat. Other oils used proved simply emollient; while chaulmoogra oil, in the majority of cases, exerted an analgesic action on the larynx which became more complete after repeated treatments. While improvement in the lesions is slower than was hoped for, yet cases treated with chaulmoogra oil have responded as rapidly as those treated with other drugs, and the treatment is much more easily borne. Preliminary cocainization has not been necessary, and there has been no pain or discomfort in the throat afterward, but rather a pleasing sensation of warmth in the throat and chest. In the cases in which intratracheal injections were made, sputum was rendered more fluid and was expelled with greater ease. Dryness of the throat, which frequently is present in tuberculous laryngitis, was improved but slightly in the majority of cases.

At first the oil was applied by means of a cotton tipped applicator saturated with a 10 per cent. solution in liquid petrolatum directly to the laryngeal surface. Following this there was no pain or discomfort except a slight momentary cough. Later the strength was increased rapidly up to the pure drug.

Chaulmoogra oil works best by intratracheal and intralaryngeal injection. One cubic centimeter of the oil, of the strength desired, usually 10 or 20 per cent. in liquid petrolatum or olive oil, is drawn up in a Luer syringe armed with a metal eustachian catheter. While the patient holds the tip of the tongue, wrapped in a paper napkin, between the index finger and the thumb

of the right hand, the syringe tip is introduced, guided by the throat mirror, into the pharynx (not the larynx) above and behind the epiglottis, care being taken not to touch any portion of the mouth or throat. Two thirds of the contents of the syringe is discharged, drop by drop, into the trachea while the patient breathes quietly. The remainder is then dropped on the cords while the patient phonates. In this way, cough following injection is very slight and often absent. When present, it occurs within five minutes after the injection and lasts for a minute or two.

REPORT OF CASES

The two cases here reported are fairly typical as to results, and are cited because the laryngeal lesions were extensive, and prognosis for a cure and for relief from dysphagia was very unfavorable.

CASE 1.—A man, aged 58, complained of severe cough, marked hoarseness and pain on swallowing, especially for liquids. Physical examination revealed advanced pulmonary tuberculosis. The sputum contained tubercle bacilli; the Wassermann test was negative. The epiglottis was negative; the vocal cords ulcerated in the posterior two thirds; there were marked infiltration and extensive shallow ulceration of the ventricular bands; the interarytenoid fold was thickened and covered with large papillary excrescences; the arytenoids were infiltrated and about three times their natural size. The patient was bedfast.

Treatment from Sept. 20, 1920, to Jan. 31, 1921, consisted of applications of formaldehyd solution and lactic acid in ascending strengths, iodoform, iodin in glycerin, and argyrol. The tuberculous outgrowths on the interarytenoid fold were removed twice with a laryngeal punch, but recurred both times. Improvement was very slight. When the chaulmoogra oil treatment was started, February 4, subjective symptoms were relieved almost at once. The distressing cough, due to the difficulty in raising tenacious sputum, was relieved after the first treatment and the sputum rendered more fluid. In less than a week the pain was gone and has never recurred. In three months' time the ulcerations disappeared. The vegetations on the interarytenoid fold slowly diminished in size and finally disappeared, until at the present time the infiltrated tissues are greatly reduced in size and the mucosa is smooth and clean. Hoarseness is still present, but greatly improved. The patient left the hospital three months ago and is being treated twice a week in the dispensary, practically an arrested case.

The second case illustrates the chief value of the oil, namely, relief of dysphagia.

CASE 2.—A woman, aged 34, complained of constant pain in the throat and excruciating dysphagia. Physical examination revealed far advanced pulmonary tuberculosis. The sputum contained tubercle bacilli; the Wassermann test was negative. The lesions in the larynx were most marked on the epiglottis and the arytenoids. The interior of the larynx could not be observed because of the size of the epiglottis, which was of the turban variety with a large ulceration extending backward and involving the left arytenoid. Prognosis for a cure (pulmonary) was hopeless, and the most we could hope for was to relieve the pain and dysphagia, which began in December, 1920. The patient was admitted to the hospital dispensary, Jan. 14, 1921. Local applications of the usual drugs were made, and anesthetic lozenges were used. Improvement was unappreciable, the pain and dysphagia remaining the same. February 8, 5 per cent. chaulmoogra oil in liquid petrolatum was applied locally to the larynx. Three days later, the patient could swallow more easily, although the constant pain still remained. Thirteen days after the initial treatment the pain and dysphagia were so much improved that she was eating and relishing her meals. One month later pain, dysphagia and dryness of the throat were absent. Neither cocain nor morphin was used at any time. By the middle of March, the interior of the larynx could be seen, showing marked infiltrations of the ventricular bands and the interarytenoid fold; the ulcerations on these structures were very shallow. Edema of the epiglottis was greatly reduced, although the large ulceration, while healthier in appearance, was still of a fairly good size. There had been a slight gain in weight. Cough was less and the sputum reduced in quantity and very easily raised. Later she developed a large superficial ulceration of the pharynx involving the right tonsil and the right side of the uvula, which has proved rebellious to treatment. The laryngeal lesions, after reaching a certain point, remained stationary for a time, while the pulmonary condition became more grave. The arrest of improvement was attributed in part to the beginning of pregnancy with associated gastric disturbances. At the present time the patient is losing ground, although the laryngeal lesions remain almost stationary.

Considering the extent, severity and location of the throat and laryngeal lesions, it is remarkable that pain and dysphagia have been abolished. Chaulmoogra oil has been used three times a week, and occasionally a period of four to six days elapsed between treatments, but at no time did pain or dysphagia return.

CONCLUSIONS

1. The chief value of chaulmoogra oil is in the relief of pain and dysphagia.
2. The relief is continuous, in contradistinction to that produced by cocain.
3. The treatment is not unpleasant or distressing, is without untoward reactions in the larynx, and can be used without previous cocainization.
4. Improvement, while not all that could be desired, seems better than that obtained with other drugs.

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ACETYLSALICYLIC ACID IN SODIUM CITRATE SOLUTION *

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Acetylsalicylic acid ("aspirin") is dispensed in dry condition because it is easily decomposed in the presence of moisture; also it is insoluble in water. However, articles have appeared recently in both medical and pharmaceutic literature claiming that acetylsalicylic acid may be dispensed *in solution* by aid of sodium citrate; also that the acetylsalicylic acid would not be decomposed. For instance, the following, which was probably abstracted from some American pharmaceutic publication, appeared in the *Prescriber:* [1]

Acetylsalicylic acid (aspirin) is practically insoluble in water, and though soluble in alcohol such a solution is not generally suitable for administration. It is therefore usually given in tablets or cachets. Solution may be effected by addition of sodium bicarbonate, but as the resulting solution is merely a mixture of sodium acetate and sodium salicylate, this method is not admissible. It is said that sodium citrate will dissolve acetylsalicylic acid without dissociation: for each grain of aspirin 4 grains of sodium citrate should be added. Such a solution, flavored with syrup of lemon, is suitable for administration to children.

The usual test for decomposition of acetylsalicylic acid is the detection of the freed salicylic acid by means of ferric chlorid solution. It occurred to me, therefore, that possibly such a test was used as a basis of the contention of the nondecomposition of acetylsalicylic acid in sodium citrate solution. If so, the seemingly negative reaction obtained may be misinterpreted, because citric acid, and citrates, interfere with the sensitiveness

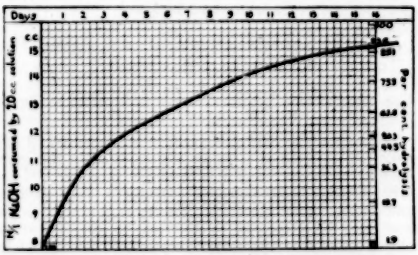
* From the Chemical Laboratory of the American Medical Association.
1. Solvent for Acetyl-Salicylic Acid, The Prescriber, June, 1921, p. 247.

of the test, and hence it would not be reliable in the case at hand. To test this hypothesis, a solution was made up and the rate of hydrolysis determined by titrating with normal alkali during stated intervals. The solution was prepared by dissolving about 18 gm. of pure acetylsalicylic acid and 72 gm. of sodium citrate in 240 c.c. of water; after standing three hours it was filtered, and 20 c.c. used for the individual determinations. One teaspoonful of such a solution would represent about 5 grains of acetylsalicylic acid. The results of the titration will be found in the accompanying table. The solution was maintained at room temperature.

RESULTS OF TITRATION

Interval of Time	C.c. of N/1 NaOH Consumed by 20 c.c. of Solution
3 hours	8.0
1 day	9.4
2 days	10.7
3 days	11.35
3½ days	11.80
6 days	12.70
9 days	13.80
14 days	14.85
17 days	15.20
Complete hydrolysis	15.70

As will be noted in the accompanying chart, acetylsalicylic acid is hydrolyzed fairly rapidly in sodium citrate solution, over 50 per cent. decomposed in four days, and 75 per cent. in nine days. Thus, a patient taking such a mixture which was 9 or more days old



Hydrolysis of acetylsalicylic acid in sodium citrate solution.

would be getting essentially the same ingredients as if sodium acetate and sodium salicylate had been used in place of the acetylsalicylic acid.

Obviously, the assertion that acetylsalicylic acid is not broken down to form salicylic acid and acetic acid (or their salts) is not based on scientific work.

The hydrogen ion concentration of the citrate solution alone was $p_H = 9.0$; after addition of acetylsalicylic acid, it was $p_H = 5.4$; after seventeen days it was $p_H = 4.6$. Thus it may be seen that the solution is appreciably acid, sufficient to decompose hexamethylenamin, with which it has been recommended to be dispensed.

Very recently 1 part of potassium citrate has been suggested in place of 4 parts of sodium citrate. Such a solution would hydrolyze, if anything, faster than one made with a higher concentration of the sodium salt.

CONCLUSION

It has been claimed that acetylsalicylic acid may be dispensed in a solution of sodium citrate without decomposition of the acetylsalicylic acid. The experiments here reported show that this is incorrect; that after four days the acetylsalicylic acid is broken down to the extent of 50 per cent.; after nine days, to 75 per cent., and that in seventeen days it is almost completely hydrolyzed.

BACILLUS WELCHII IN A PUBLIC WATER SUPPLY

AS A POSSIBLE CAUSE OF INTESTINAL DISEASE

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The Montclair Board of Health, through the public press and by means of printed handbills, Feb. 15, 1921, issued a warning to the citizens of the town advising that all water obtained from the public supply be boiled before being used for drinking purposes. The facts that led to the issuance of this notice are worthy of scientific record, as it was the first time, so far as I can discover, that such a notice has been issued under similar circumstances.

The water served to Montclair and several neighboring municipalities is obtained from the highly polluted Passaic River at Little Falls, N. J., sufficient reason in itself, according to the late William T. Sedgwick, to condemn the water on grounds of common decency if for no other reason. At Little Falls the water is subjected to treatment by rapid sand filtration and liquid chlorin, in a purification plant that has been approved by eminent sanitary engineers. From this plant, the water is pumped to a small reservoir, which provides very little storage, and is finally fed by gravity to the town of Montclair, a municipality of about 30,000 inhabitants.

RESULTS OF ANALYSES

Daily bacteriologic analyses of the town water were begun, Nov. 29, 1920, in the newly acquired laboratory of the board of health under my direction. The Treasury Department method was adopted with the slight modification of incubating the lactose broth fermentation tubes seventy-two hours at 37.5 C. instead of forty-eight hours. No gas production was evident in any of the tubes inoculated with 10 cubic centimeter samples of water at the expiration of twenty-four hours' incubation and only in a very few at the end of forty-eight hours. When, however, the tubes were held for seventy-two hours at 37.5 C., a striking change was noted. In the majority of the tubes a rapid evolution of gas was evident in amounts varying from 50 to 100 per cent., accompanied by foaming and a very pronounced odor of butyric acid. Transferring a loopful of the culture to a Petri dish, and pouring an Endo plate about one-fourth inch (6 mm.) deep and then incubating for twenty-four hours at 37.5 C. resulted in the formation of bright red colonies, surrounded by bubbles of gas in the deeper portion of the plate. Frequently, gas formation was such as to tear the medium to pieces. Fishing a colony from the deep part of the plate and transferring to a tube of sterile whole milk, recently boiled to drive off dissolved oxygen, and then incubating for twenty-four hours at 37.5 C., resulted invariably in the production of the "stormy fermentation" so characteristic of the organism known as *Bacillus welchii*, which the organism under consideration was finally decided to be.

V. 192

In view of the unsatisfactory state of knowledge concerning the pathogenicity of this organism, as found in water supplies, the board of health hesitated to take any action which might unnecessarily alarm the people, and it therefore appeared advisable to await developments, especially since there was no telling how long the organisms had been present in the water and had been consumed with no ill effects so far as known.

A specimen of feces from a sick person was submitted by a physician, Feb. 9, 1921, for laboratory examination. The patient was a child, aged 8 years, and the diagnosis much in doubt. The clinical symptoms as described by the physician were "considerable fever, exhaustion, gas production in the intestines but no diarrhea, stools watery and containing much mucus, and with an extremely foul, sour odor." A bacteriologic examination revealed only a few *B. coli*, they having been almost completely displaced by an organism that was present in tremendous numbers and which was similar to, if not identical with, the organism we had been finding almost daily in our water supply. The organism found in the feces under examination fermented lactose broth medium with the production of gas varying in amount from 75 to 100 per cent., accompanied by a strong odor of butyric acid. When Endo plates were poured, gas was produced in the deeper parts of the plates after twenty-four hours' incubation in such quantities as to tear the medium to pieces. Inoculated into sterile whole milk, the typical "stormy fermentation" characteristic of *Bacillus welchii* was produced.

INTESTINAL DISTURBANCES

On inquiry among the medical profession, of thirty physicians interviewed, seventeen had seen 187 cases of intestinal disorder within the preceding few weeks. Not all of the cases presented the same symptoms, nor were they confined to any particular age group or section of town. The symptoms included fever, vomiting, diarrhea, intestinal fermentation and headache. One physician, on being interviewed, reported fifty cases; and another, who reported twelve, volunteered the information that the town water was responsible, although he had no means of knowing that our suspicions were directed toward the water supply at this time. Asked his reason for such a belief, he replied that all of his cases "cleared up in two or three days after they were put on boiled water but without any additional treatment." After carefully considering the facts presented above in connection with the laboratory results obtained, the board of health, as a matter of precaution, issued the boiling notice already referred to, and this action has given rise to considerable discussion in engineering and medical circles.

It is recognized, of course, that the facts as already stated do not by any means constitute satisfactory evidence that the organism *Bacillus welchii* caused the cases reported, and yet it is extremely significant that those cases which occurred in February, 1921, had many points in common with approximately 2,000 cases of intestinal disease which occurred in Montclair in January, 1918.

At that time, entirely without warning, the people of Montclair were supplied with unfiltered water which had received only chlorin treatment. This procedure was necessitated because of the fact that a federal order required that Jersey City be supplied with an additional quantity of water. The total amount of water required of the Little Falls plant therefore exceeded its maximum filtering capacity, with the result that unfiltered water was used.

Immediately following the introduction of this supply into the mains, the 2,000 cases of intestinal disease already referred to occurred with explosive violence. None of the cases terminated fatally; indeed, many of them were not sufficiently severe to require medical attention, and not a single case of typhoid accompanied them. Laboratory analyses made of the town water at that time disclosed large numbers of *Bacillus welchii*, however, which, being of a more resistant nature than *Bacillus coli*, had survived chlorination. At the time there were persons who scouted the contention of Dr. Charles E. North and others that the cases were of bacterial origin, and in its place advanced the theory that increased pressure in the pipes had caused the stirring up of organic matter contained therein, which was the responsible agent. There can be little doubt in the minds of most of those who are conversant with the facts of this epidemic that a micro-organism of more than ordinary resistance was the causative agent; and it would seem to be a not unreasonable suggestion that *B. welchii* might well be the one concerned.

RÔLE OF BACILLUS WELCHII

In connection with the 187 cases of intestinal disturbance that were reported early in 1921, additional facts have recently been brought forward which have strengthened my belief in the *B. welchii* theory.

In a paper read before the Associated Physicians of Montclair, March 8, 1921, entitled, "Cases Illustrating the Gas Bacillus Infection in Children," Dr. Elizabeth Mercelis considered the case records of five children selected from a large practice. The cases under consideration had been treated at different times during the period 1918 to 1921. In all of the cases the presence in the stools of large numbers of an organism which is referred to as the "gas bacillus," but which had many points in common with *B. welchii*, was conclusively demonstrated by laboratory tests. Efforts directed toward the elimination of this organism invariably resulted in rapid recovery; and when relapses occurred, an increase in number was found to have resulted. In summarizing her remarks, Dr. Mercelis says:

> I have selected these five cases as illustrative of very different clinical conditions, dependent apparently on the same causative agent.
>
> The patients vary in age from 1 month to 6 years, and in home environment from that of the most squalid Italian tenement to that of our best homes. The infection is therefore independent of insanitary conditions.
>
> CASE 1.—A frail infant, without marked gastro-intestinal manifestations, but so unable to withstand the irritative products resulting from bacterial growth that it was practically moribund when treatment began.
>
> CASE 2.—Resembling an acute autointoxication, as from any other cause.
>
> CASES 3 and 4.—Subacute in type, insidious and increasing ill health rather than any specific outbreak.
>
> CASE 5.—This pointed to severe reaction of the nervous system dependent upon irritative products in the intestinal tract.

At the same meeting, Dr. James T. Hanan of Montclair considered gas bacillus infection in adults. After a review of thirty-eight case records of persons suffering from various disorders of uncertain character, but in whose intestines excessive numbers of the gas bacillus were present, Dr. Hanan stated that treatment directed toward the elimination of the organisms invariably resulted in the patient's recovery. He also expressed the opinion that many subacute and chronic

illnesses are the result of overgrowths of *B. welchii* in the intestines.

A number of arguments have been advanced in opposition to the suggestion that the town water was the cause of the cases reported in February, 1921. It has been stated that *B. welchii* is frequently found in milk, and that an infected milk supply might have been the cause. Admitting this possibility, however, would not weaken our contention, since the real point at issue is whether or not *B. welchii* does harm to the human system irrespective of whether it is present in water, milk or, in fact, in any food. The excellent typhoid rate of Montclair has been cited as being indicative of a safe water supply. It is suggested in this connection that statistics and especially typhoid rates do not always tell the whole story. Not a single case of typhoid followed the 2,000 intestinal cases that occurred in 1918. The typhoid rate for that epidemic is therefore zero, yet there is no doubt in my mind that the unfiltered water was the cause of the outbreak. It is urged that the wide distribution of *B. welchii* in water supplies argues against the organism being the cause of intestinal disease. I consider this fact, if true, a good argument in favor of the guilt of the organism, however, as hardly a year passes that we do not get reports, from various parts of the country, of outbreaks of intestinal disease the cause of which is in doubt, although the evidence frequently points to water. Some waterworks men have expressed the opinion that *B. welchii* has no sanitary significance. It seems to me, however, that such persons are treading on rather thin ice when they assert that an organism acknowledged to be a frequent inhabitant of the intestinal tract has no sanitary significance when found in water supplies. It has been argued that the small number of cases reported in 1921 disproves the contention that the town water was responsible, since, in the 1918 epidemic, nearly 2,000 cases were reported, and since our laboratory tests for January and February, 1921, showed the presence of *B. welchii* almost continuously. In answer to this it must be stated that the organisms were much more numerous in the water in 1917-1918 owing to the failure of the water company to filter the water. That a group of people by continued use of a polluted water may build up an immunity to it is not improbable, and that an increase in pollution may break down the acquired immunity of a certain percentage of the group is also quite within the bounds of possibility.

That the Montclair case is not the only one in which a municipal water supply has been considered unsatisfactory because of the presence of *B. welchii* is evidenced by the testimony of D. D. Jackson in 1909 in *Mayor and Aldermen of Jersey City* v. *Jersey City Water Supply Company* in chancery of New Jersey. Jackson developed a presumptive test for *B. welchii* and demonstrated this organism in considerable numbers in the Jersey City water. As a result of investigations which he made, Jackson testified that in his opinion the presence of *B. welchii*, or, as he called it in his testimony, *Bacillus enteriditis-sporogenes*, indicated pollution and rendered the water unpotable.

WATER PURIFICATION

While the filtration and chlorination of public water supplies has effected a gratifying decrease in the typhoid rate of the country, it would be a great mistake to feel that the last word has been said on the subject of water purification. The reduction of typhoid fever should not be permitted to obscure the issue so far as other water-borne diseases are concerned, and it is becoming more and more evident as outbreaks of intestinal disease are studied that investigation of this subject offers a fertile field for activities. There is no doubt that many of the leading waterworks engineers appreciate this fact, as the following quotations taken from the *Engineering News-Record* indicate:

Mr. Theodore Horton, chief of the Bureau of Engineering of New York State says:

> The more I study outbreaks of gastro-enteritis the more I am convinced that most of them, at least, are water-borne. Whether it is infection by *B. welchii* or some other bacterium, or infection by a protozoan, or whether the trouble is due to irritation from physical, chemical or organic substances I do not know, but I am inclined to think that a specific organism is the cause.

Mr. J. W. Ellms, a sanitary engineer in charge of the water filtration plant at Cleveland, and a waterworks man of international reputation, says:

> My confidence in public water supplies that have been chlorinated only has been shaken considerably of late. The *B. coli* test does not seem to tell the whole story of pollution, and we may yet be forced to extend routine work for the isolation of bacilli found in polluted waters. Typhoid fever is rather heavily leaned on in judging a public water supply, which is, of course, quite proper; but I believe that we must also give a great deal more weight to other intestinal troubles, especially gastro-intestinal troubles in infants.

Mr. W. H. Dittoe, chief sanitary engineer of the Ohio State Board of Health says:

> We believe no gas formers should be found in 10 c.c. of filtered or ground waters. We do not consider it necessary to differentiate between *B. coli* and *B. welchii*, as either form would cause gas in broth incubation and indicate an unsatisfactory water.

Samuel C. Prescott, professor of industrial microbiology at the Massachusetts Institute of Technology, Cambridge, says:

> I am strongly of the opinion that heavy infection of water with *B. welchii* may give more or less serious intestinal troubles, such as we had in Cambridge for a day or two in 1920.

If it is finally concluded that the Welch bacillus is an undesirable organism in water supplies, we shall have to revise our ideas considerably as to what constitutes a potable water. The inability of chlorin in the usual amounts effectively to destroy the spores of the organism, as already conclusively demonstrated in the water supply of Montclair, indicates that for the complete removal of the organism we must look to the construction of more effective filters, since the Little Falls filters are conceded to be as good as any that are being constructed at the present time, and assuming that they are being operated to the best possible advantage. In lieu of more efficient filtration, we must draw the line at using a water supply which contains the organisms in such numbers as to render their removal impossible by such filters as are in use today and with chlorin treatment in addition.

It is unfortunate that certain engineers and water plant operators have apparently, with very slight knowledge of the matter, dismissed the charges against *B. welchii* with statements to the effect that the organism is harmless, and with a promptness which does not indicate an open mind in the matter.

Engineers and water plant operators have, as a general rule, no qualifications which would enable them to

determine whether or not *B. welchii* is harmful. The question of the pathogenicity of the organism is entirely a medical one; and until qualified experts, having medical training, have thoroughly studied the effects of the organism on the human body and have decided the question one way or the other, we should be extremely cautious, in my opinion, about accepting as potable a water which contains the organisms in any such quantities as they have been demonstrated in the water served to Montclair.

Clinical Notes, Suggestions, and New Instruments

A GUINEA-PIG, RAPID METHOD FOR THE DIAGNOSIS OF TUBERCULOSIS *

H. R. MILLER, M.D., NEW YORK

This method for demonstrating tubercle bacilli in pure culture is applicable, diagnostically, for specimens (sputum, urine, etc.) which may contain the usual nonacid fast microorganisms as a secondary contamination; it serves, also, as an effective means of differentiation between tubercle bacilli and acid fast bacilli nonpathogenic in character.

The specimen in question is first treated with a small quantity of weak alkali, enough to make a thin, rather nonviscid fluid if tenacious sputum is used, for instance. If urine is to be examined, its thoroughly centrifuged sediment is treated with alkali. Alkalis, such as weak antiformin or 3 or 4 per cent. sodium hydroxid, are employed. From thirty to sixty minutes later, after one drop of a 1 per cent. phenolphthalein solution as an indicator, normal acid is added cautiously until a neutral point is reached. To this practically neutral, sterile solution, dye (gentian violet) is added in approximately 1:3,000 or 1:5,000 dilution.

A 20 or 22 gage needle is thrust into the liver of a guinea-pig. This is not difficult. The median line very close to the flare of the ribs or a point bisecting the right hypochondrium may be chosen as a site for the injection. Regular respiratory oscillations of the needle indicate that it is lodged in the liver. From 1 to 1.5 c.c. of the dye-colored, neturalized solution is now injected. All manipulations should be done aseptically. Guinea-pigs are readily inoculated in this manner; they require no anesthesia and, apparently, show little if any discomfort. From twelve to sixteen days later, they are examined postmortem. Macroscopically there is, as a rule, distinct evidence of tuberculosis in the liver and spleen. If there is any doubt as to the nature of the lesion, a portion of the liver is sectioned and treated with Ziehl-Neelson stain. Tubercle bacilli are then readily observed lying in scattered, discrete areas of newly former cells (endothelial).

We have carried out this procedure in eighteen guinea-pigs. Tubercle bacilli in the stained section of the liver were noted as early as eleven days after injection. Earlier than this time we have, as yet, made no examinations. Evans, Bowman and Winternitz,[1] however, injecting pure cultures of tubercle bacilli intravenously into guinea-pigs, found in the livers of these animals, as soon as thirty-six hours after inoculation, tubercle bacilli and lesions which they interpret as tubercle formation. We plan later an attempt to introduce intravenously specimens for diagnosis, treated by preliminary alkalization, neutralization, and the use of dye. At this time we wish to report that we have used this method in eighteen guinea-pigs, employing sputums from tuberculous patients, all containing tubercle bacilli in varying amounts. Tubercle bacilli were demonstrated in the livers of these eighteen guinea-pigs.

The method outlined will possess clinical practical value only if it will serve to demonstrate tubercle bacilli in the guinea-pig after inoculation from specimens in which tubercle bacilli could not be discovered during prolonged and diligent search; it is, therefore, offered for clinical criticism.

Since this work was carried out we came upon the reference of Oppenheimer,[2] who carried out intrahepatic inoculation for the diagnosis of tuberculosis. Many of his animals, however, developed mixed infections. This difficulty is avoided by the preliminary alkalization, neutralization and the use of dye—procedures which have proved practical and reliable in the hands of Petroff for the growth and cultivation of tubercle bacilli.

266 West End Avenue.

* From the Department of Bacteriology, Columbia University College of Physicians and Surgeons.

1. Evans, Bowman and Winternitz: J. Exper. Med. 19: 283, 1914.

THE PREPARATION OF FOOD ALLERGENS IN TABLET FORM FOR THE INTRACUTANEOUS TEST

BRYCE W. FONTAINE, M.D., MEMPHIS, TENN.

Most writers agree that the intracutaneous administration of food allergens is superior to the older cutaneous method. I. Chandler Walker, however, still adheres to the cutaneous test.

Duke's[1] recent article on food allergy as a cause of abdominal pain is interesting, and his technic practical. His directions, however, are rather indefinite as to accuracy in the amount of allergens used. In following his method of measuring 0.1 mg. of the allergen used, one is likely to get from one half to twice the amount desired.

With a view to obviating this possible inaccuracy, it occurred to me that the allergens could be accurately weighed and put up in water-soluble tablets, each weighing one-half grain. With the assistance of Mr. Karl Wood, a pharmaceutic chemist of this city, I have been enabled to put my idea into a tangible and practical form.

This tablet, in addition to the allergen or allergens, contains sufficient sodium chlorid and sodium sulphate to make an isotonic salt solution when dissolved in 0.1 c.c. of warm water. The bulk of the tablet consists of sodium sulphate, as it is considered one of the best excipients for use in the preparation of hypodermic tablets.

I have grouped eight closely related allergens in one tablet in the following manner: In each tablet there is 0.1 mg. of each of eight allergens, and sufficient sodium chlorid and sodium sulphate to make a tablet weighing one-half grain, and making an isotonic salt solution when dissolved in 0.1 c.c. of warm water. A second set of tablets is made as above, but each tablet contains only one allergen, with sodium chlorid and sodium sulphate. A third set of tablets contains only sodium chlorid and sodium sulphate, weighing one-half grain and making an isotonic salt solution when dissolved in 0.1 c.c. of warm water.

The idea of grouping the allergens in order to avoid so many injections was suggested to me in a recent conversation with Duke; and, in attempting to develop the technic, the idea of the tablet occurred to me. Duke suggests in his technic the use of a Luer tuberculin syringe, with a needle of 27 or 28 gage.

In carrying out the test, one of the tablets containing only sodium chlorid and sodium sulphate should be dissolved in 0.1 c.c. of warm water, and given intracutaneously, as a control. Then one of the tablets containing the combined allergens should be dissolved in 0.1 c.c. of warm water, and be given intracutaneously. If a reaction occurs, the allergens should be given separately, by using the tablets containing the single allergens comprising the group in the combined tablet. These individual allergens are injected, one at a time, until the specific allergen is indicated by the appearance of a positive reaction. The readings in these reactions can be taken as in the cutaneous tests. A positive reaction usually appears as early as twenty minutes, and sometimes persists for twenty-four hours.

The chief advantage in the use of these tablets is the absolute uniformity in the dosage of the allergen, thereby assur-

2. Oppenheimer, R.: Ztschr. f. Urol., 1911, supplement, pp. 122-125; Deutsch. Gesellsch. f. Gynäk., 1911.

1. Duke, W. W.: Food Allergy as a Cause of Abdominal Pain, Arch. Int. Med. 29: 151 (Aug.) 1921.

ing accurate and reliable results. These tablets give an unvarying and accurate quantity of the allergen in an isotonic salt solution. They are stable and should keep indefinitely. The cost is negligible, and they can be made by any competent pharmacist.

There is no doubt that the intracutaneous method of using these tests is of much greater value than the cutaneous method, and in adopting a simple, reliable uniform technic, I believe they can be made a valuable aid in our routine work.

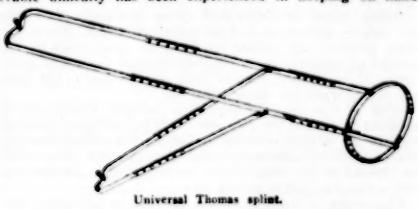
A very serious objection to the older method has been the numerous positive reactions obtained. This error might have been due to the fact that excessive quantities of the allergens were used.

1109 Central Bank Building.

A UNIVERSAL THOMAS SPLINT

FREDERICK C. WARNSHUIS, M.D., GRAND RAPIDS, MICH.

The value of a Thomas splint in the treatment of fractured femurs, tibias and fibulas is universally recognized. Considerable difficulty has been experienced in keeping on hand



Universal Thomas splint.

splints of proper sizes. Even though one may have a dozen assorted sizes, there are occasions when not one of them is suitable.

To remedy the condition I have had made a universal Thomas splint as represented in the illustration. Its features are:

1. I. is adjustable to almost any sized limb, because: (*a*) the ring is adjustable and can be enlarged or decreased in size; (*b*) the distance from the ring to the knee can be increased or decreased; (*c*) the length from the knee to the ankle can be decreased or increased, and (*d*) the extension bar can be lengthened or shortened.
2. An ordinary screw-driver is all that is required.
3. The ring may be readily padded to the proper size.
4. It is collapsible and can be carried in a compact space.
5. It has the hinged extension, permitting passive motion of the knee joint at all times.
6. It obviates the necessity of having a large number of Thomas splints on hand.
7. If plated, it will not rust.

POISONING BY SHOE DYE

R. E. CLOUD, M.D., ENSLEY, BIRMINGHAM, ALA.

Nellie M., aged 3 years, had her shoes dyed at 5 o'clock in the afternoon. At 8 the same evening, the mother noticed some blueness of the lips, and at 8:30, when I saw her, her appearance was alarming; the face and hands were very pale, and the lips and finger nails markedly cyanotic. The child was irritable and behaved as if tired. The pulse was 134, heart action regular but agitated, and there was a systolic murmur, heard all over the precordium. The temperature apparently was not elevated, and there were no respiratory or gastro-intestinal symptoms. The eyes, mouth and throat were negative except for cyanosis of the lips and tongue. During examination, the odor from the freshly dyed shoes was very noticeable. With fresh air and rest in bed during the night, the cyanosis gradually cleared up, and the next morning the appearance and condition of the child showed nothing abnormal. When seen again a week later she was perfectly well, and there had been no return of the cyanosis.

REPORT OF CASE OF TWIST OF FALLOPIAN TUBE*

GAYLORD T. BLOOMER, M.D., DETROIT

On account of its apparent rarity, this case seems sufficiently interesting to report, since careful search of the literature[1] to date reveals only twelve reported cases.

REPORT OF CASE

History.—Mrs. W., aged 33, white, married, was admitted to the service of Dr. Max Ballin, Nov. 6, 1921, complaining of excruciating abdominal pain of five hours' duration. The family and past histories were unimportant. She had had three children and no miscarriages. There was nothing in the past history to suggest any previous pelvic inflammation.

Present Illness.—Three days previous to admission she began having a constant dull aching pain across the lumbar region of the back. The following day the pain was more severe. Shortly before noon of the third day she was suddenly seized with agonizing cramps in the left lower quadrant of the abdomen, 2 inches (5 cm.) above the middle of Poupart's ligament. The pain was so severe that the administration of 1 grain (0.065 gm.) of morphin was necessary in the course of four hours. The pain was sharply localized to an area 1½ inches (3.8 cm.) in diameter, with some radiation down the inside of the left thigh as far as the knee. At no time was there any nausea or vomiting. The bowels moved well following an enema at noon.

The last menstrual period was normal and completed two days before the onset of the attack. The menstrual period prior to that also was normal.

Examination.—The patient looked very ill. The general examination was negative. The abdomen was level and tympanitic. There was an area of rigidity localized around the small area which was the site of the pain. Vaginal examination was negative on account of general tender rigidity, but we were sure there was no large cyst.

The temperature was 99.2 F.; pulse, 90; respiration, 20. Blood examination revealed 7,400 leukocytes with 78 per cent. polymorphonuclears. The urine was negative. Roentgen-ray examination detected no stones in the urinary tract.

Hydrosalpinx with twisted tube; ovary attached.

On account of the uncertainty of the diagnosis and in view of the patient's good general condition, it was decided to delay operation till morning. The pain was less severe during the night, while the patient's condition remained unchanged. Vaginal examination again revealed only tenderness in the left vault. We were unable to make an absolute diagnosis before operation. At first we favored ureteral calculus, but this was ruled out by the negative roentgen-ray

* From the Second Surgical Division of Harper Hospital.

1. Whitehouse: Acute Torsion of Hydrosalpinx, Birmingham M. Rev. 81: 53, 1917, one case. Dearborn: Torsion of Hydrosalpinx, Boston M. & S. J. 184: 112 (Jan. 6) 1921, one case. Roeder, C. A.: Hydrosalpinx with Twisted Pedicle, J. A. M. A. 76: 515 (Feb. 19) 1921, one case, with bibliography of remaining nine cases.

and urinary findings. The two conditions then most favored were a small ovarian cyst with twisted pedicle or an unbroken ectopic pregnancy, although the possibility of a hydrosalpinx with twisted pedicle was considered.

Operation and Result.—A low median incision, 3 inches (7.5 cm.) long was made. The abdomen contained no blood or free fluid. The left tube carried in its fimbriated end a dark bluish mass 1 inch (2.5 cm.) in diameter. Proximal to this swelling there was a twist through 360 degrees around the long axis of the tube. The mass resembled an early unbroken tubal pregnancy, except for the torsion of the tube. The meso-ovarium and mesosalpinx were quite long. The right adnexa were normal. The appendix was sharply kinked in its middle, with a very short meso-appendix. Left salpingo-oophorectomy was done, along with routine appendectomy.

The convalescence was rapid and uneventful.

Pathologic examination revealed an hydropic tube with twisted pedicle. The wall was gangrenous and filled with gelatinous fluid. Microscopically, the specimen showed a cystic tube of old hydrosalpinx lined by columnar epithelium; the tube was filled with blood and had a gangrenous wall from torsion.

COMMENT

Judged from the literature, hydrosalpinx with torsion of its pedicle is quite rare. This rarity is doubtless explained by the presence of adhesions usually accompanying hydrosalpinx, rendering torsion impossible. None of the reported cases were diagnosed prior to operation, the most frequent diagnosis in right-sided cases being appendicitis, and ectopic pregnancy or ovarian cyst with twisted pedicle in left-sided cases.

In most of the cases, nausea and vomiting have been prominent symptoms, but our patient had neither nausea nor vomiting. The outstanding symptom was sharply localized excruciating pain, accompanied by a localized area of tender rigidity.

From questioning several other surgeons, we have formed an impression that this condition is much more frequent than reported, being considered unbroken tubal pregnancy when found, and not closely examined for torsion or presence of an ovum.

CAROTINEMIA IN AN ADULT

CAROLINE MCGILL, PH.D., M.D., BUTTE, MONT.

Head and Johnson,[1] in their report of a case of carotinemia in an adult, have given an excellent report of the condition with review of the literature, so that repetition is unnecessary.

REPORT OF CASE

Mrs. J. P. W., aged 43, housewife, first seen in June, 1920, was in the manic stage of a mild manic-depressive psychosis with history of previous attacks. She had been under the care of a chiropractor for two months, who had assured the family that by diet and his manipulations she would be cured. Her diet had been milk, raw lemons and about a dozen raw carrots a day. Needless to say, there was no change in her psychosis. The patient's family had noticed a yellow tingeing to the skin for several weeks, and stated that it had been getting progressively worse. The skin of the whole body surface was a most intense yellow, more marked on the palms and soles. The sclerae were not involved. Nowhere was there the brownish tinge seen in cases of long standing jaundice. The urine contained no bile pigments. The blood serum was bright yellow; at no time did it give reactions for bile.

Carrots were withdrawn, and the patient put on a well balanced diet. She was observed frequently until October, 1920. There was a rapid fading of the color, and in about a month the skin was normal except on the palms and soles, where some discoloration was still present when the patient was last seen.

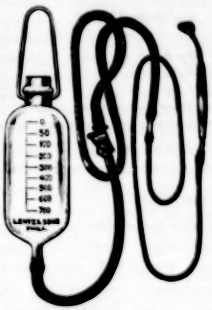
Murray Hospital.

1. Head, G. D., and Johnson, R. A.: Carotinemia: Report of a Case in an Adult, Arch. Int. Med. 28: 268 (Sept.) 1921.

HYDROSTATIC EYE DOUCHE

L. WEBSTER FOX, M.D., PHILADELPHIA

Thorough irrigation of the retrotarsal fold of the upper eyelid is one of the important essentials in cataract or any other operation requiring a corneal incision. With the nozzle of this irrigator one can easily flush the whole of the conjunctival culdesac and the globe. After the flat nozzle has been inserted under the upper lid it can be raised; this action stretches the eyelid and takes out all the minute folds of the conjunctiva, allowing the fluid to wash away any lurking enemy that may have found lodgment, a future focus of infection.



Hydrostatic eye douche.

The irrigator is made of sterling silver, gold plated, as I have found these metals the better suited for the various mercuric chlorid solutions in use. Gold plating is employed because various experiments have proved that pathogenic germs will not grow on gold leaf. I am not unmindful of sterilization of instruments by dilute alcohol and heat.

303 South Seventeenth Street.

A CASE OF GENERAL DERMATITIS DUE TO THE EXTERNAL USE OF ORTHOFORM

JACOB ROSENBLOOM, M.D., PH.D., PITTSBURGH

It is not generally known that the external application of orthoform can lead to an alarming generalized dermatitis. Orthoform (methyl-para-amido-meta-oxybenzoic ester) when applied externally in a 5 per cent. ointment to a patient suffering from anal pruritus produced an extremely acute and generalized dermatitis. The scalp and face were involved. The dermatitis was accompanied by marked edema of the tissues. This edema was most marked in the face, resembling the marked edema in glomerular nephritis. The only mention of this condition occurring after the use of orthoform that I could find is that of Bastedo.[1] He states that he has seen a spreading dermatitis of the fingers and hands after the use of an orthoform ointment. It occurred twice in the same person, and he thought it no doubt was due to idiosyncrasy.

I was able to produce the condition twice in my patient, the second occurrence of the dermatitis being more severe than the first. It would be interesting to know whether drugs similar to orthoform, such as anesthesin (the ethyl ester of para-amido-benzoic acid) and propaesin (para-amido-benzoic acid-propyl ester), are capable of producing dermatitis in certain cases.

5070 Jenkins Arcade.

1. Bastedo: Materia Medica, Pharmacology and Therapeutics, Ed. 2, 1918, p. 424.

Importance of Breast Feeding.—The younger the baby the greater the necessity of breast milk, if that baby is to live and grow into health. A recent investigation made by the Children's Bureau shows that of certain babies who had been exclusively breast-fed during the first six months of life, only a little more than 2 per cent. died during the first year of life, while the proportion of babies dying who had been artificially fed during the same period was about six times as great. It is plain that, as has been often said, "every mouthful of breast milk is important to the baby," and that in the first six months it is the principal safeguard of life.—*Bulletin*, Children's Bureau.

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SATURDAY, JANUARY 28, 1922

PALEOPATHOLOGY

As a master at one and the same time of pathology, archeology and anthropology, Rudolf Virchow was undoubtedly the first significant contributor to our knowledge of the pathologic changes that are to be found in the remains of our early ancestors. To this field of study, christened paleopathology by the late Sir Marc Armand Ruffer, numerous observers in different parts of the world have from time to time added their contributions. In this country, Dr. Ales Hrdlicka has described pathologic changes observed by him in his numerous explorations and studies of the aborigines of this hemisphere, and Prof. Roy L. Moodie of the University of Illinois has investigated not only pathologic but also bacteriologic specimens of early geologic times, finding bacteria in the Mesozoic era and, among other things, a pathologic lesion of the tail of a dinosaur. For the most part, the pathology of past ages has been revealed to us through osseous lesions, but the science of paleopathology received a great impetus when the Egyptian government placed large amounts of mummified material in the hands of such capable students as Ruffer, G. Elliott Smith and F. Wood Jones at Cairo. This came about at the time when the building of the great Assuan dam promised the inundation of areas of Egypt containing important burial places, the material from which was excavated to prevent its destruction, and thus made available for investigation.

After having spent some years in the study of this and other Egyptian material, Sir Armand Ruffer had planned to retire from active duty in 1919 and devote himself to the publishing of his observations, but lost his life at sea while returning from a mission to Saloniki in 1917. Fortunately, not all his work is lost to science, for his scientific colleague and widow, Lady Ruffer, has recently published an imposing volume of his studies.[1] He devised methods for successful microscopic study of the soft tissues of these mummies, which made it possible to learn of other diseases than those that could be revealed by examination of the bones. Although the Egyptian embalmers had no such supernatural skill as tradition ascribes to them, relying mostly on the dry climate and the hot, sandy soil to preserve the subjects of their art, they were skilful in eviscerating their clients, leaving little of most of the important organs for study. Fortunately, not all bodies were embalmed, and so considerable visceral material has been obtained, preserved only by the desiccation of the Egyptian climate.

For any medical man, the story of the pathology of Egypt is nothing less than fascinating. We learn that the inhabitants of the Nile Valley, the cradle of history, suffered from arthritis deformans as far back as their pathology can be followed, and to a far greater degree and at a much earlier age than we now see this disease. The enthusiast on focal infection will be delighted to know that peridental infection was rife among these arthritics, who hobbled to their graves a few thousands of years since. Even the cave bears, and a crocodile who basked in the sun some 900,000 years ago, had arthritis deformans with ankylosis of the vertebrae. The demonstration that a hump backed priest of Ammon, 1,000 years B. C., owed his hump to Pott's disease shows how little 3,000 years have altered the behavior of tuberculosis. Pneumonia is demonstrated in these old bodies, with bacteria still in a stainable condition. An osteosarcoma is identified in a skeleton of 250 A. D. Bilharziasis attacked the urinary tract commonly in the early days of Egypt, which country is still noted for the frequency of this parasitic disease. Lesions closely resembling smallpox can still be recognized and studied by modern microscopic methods in these old mummies. Arteriosclerosis was common and severe in those days, when tobacco, excessive meat eating, modern strenuosity, and such things that nowadays are blamed for this condition certainly did not exist. Egyptian art has much reference to the dwarfs and other deformed persons of that day, which shows that achondroplasia has occurred for at least 5,000 years, that rickets has probably existed for the same period, and that the deformities characteristic of Pott's disease and of talipes equinovarus were put on record about 4,000 years ago.

For the historian, this sort of investigative work will be certainly of value, for it adds much to the picture of life in bygone times. It reveals the fact that men were commonly stiff and old by the time they had reached 50 years, and that the good old days were not so good from the sanitarian's standpoint. And we find that royalty was of very common clay, with extremely bad teeth and gums, queens bald of head, and even, we blush to say it, princesses with nits in their hair. Syphilis has not yet been demonstrated in early Egyptian bodies, a fact which may have influenced the sociology of the day. Food habits varied from time to time and in different classes, as shown by the degree of wearing down of the teeth, but at no time did there

1. Ruffer, M. A.: Studies in the Palaeopathology of Egypt, Chicago, University of Chicago Press, 1921; reviewed, this issue, p. 301.

exist those prehistoric dentists of whom all popular histories of Egypt relate, although they certainly were sorely needed.

Some studies of mummy material have also been made from the chemical standpoint. Abderhalden [2] found that the tissues of mummies were still well enough preserved after 3,000 years to yield amino-acids when hydrolyzed, and to have undergone autolysis since death, so that free amino-acids, cholesterol and fatty acids were present in the muscles. The brain of recent mummies still contains cholesterol, but it is greatly reduced in amount in very old specimens, according to Muir,[3] although much of the phosphorus remains. Active enzymes have been described in the muscle of mummies,[4] and it was found by Hansemann [5] that the proteins were so little altered in a mummy 5,000 years old that they gave the specific precipitin reaction. A glimpse at Egyptian therapeutics is offered by Johnsson,[6] who, in mummies of the same vintage, found that the intestines contained relics of grain, and epithelial cells of a common plant, the trichodesma, which is a household remedy to this day in certain countries for intestinal irritations and catarrhal conditions of the air passages. This was accompanied in some cases by mouse bones, recalling the Chinese pharmacopeia. Although fractures seem to have sometimes been skilfully cared for, and many persons in many climes survived trephining, nevertheless it seems that therapeutics has altered more than disease during the last fifty centuries.

IS WATER CHLORINATION EFFECTIVE AGAINST ALL WATER-BORNE DISEASE?

An important question is raised by the article on "Bacillus Welchii in a Public Water Supply as a Possible Cause of Intestinal Disease," published elsewhere in this issue.[7] As is well known, the method of chlorin treatment of water is now used widely in this country, possibly 0.5 per cent. of the total population being supplied with water treated by the chlorin method. The verdict of sanitarians as to its efficiency has been almost uniformly favorable. Chlorination of water supplies has been, indeed, remarkably successful in doing away with the danger of water-borne typhoid. If it is true, however, that the spores of certain pathogenic organisms are so resistant to chlorin that they survive its action in numbers large enough to cause extensive outbreaks of intestinal disease, it is plain that dependence on the chlorin treatment of highly polluted waters is to some degree unjustifiable. Cambridge, Mass., and some other communities appear to have suffered like Montclair from outbreaks of enteritis attributed to chlorinated water supplies.

Several perplexing problems are involved. In the first place, is the practice warranted of attempting by chlorination of a heavily sewage contaminated water to obtain a supply fit for human consumption? To this question the answer will be almost universally negative. Experienced waterworks engineers, as well as health officers and sanitarians generally, regard such a practice as dangerous and eminently undesirable. It is true that, in an emergency, chlorin treatment of a dilute sewage may be the only safeguard available; but, as a matter of routine practice, chlorinated sewage will find few defendants. It is today well recognized that, if the source of the public water supply is contaminated with a large amount of sewage, preliminary treatment by filtration or some other process should precede chlorination.

A second question, and one of great practical importance, is whether the ordinary *Bacillus coli* test for water contamination is insufficient. If it is a fact that the spores of *Bacillus welchii* or some closely similar anaerobic organism can withstand chlorin treatment, would it not be desirable to add tests for such organisms to the standard methods of water examination, particularly where chlorinated waters are concerned? This question was discussed by a number of the leading experts in sanitary water analysis in this country a few months ago in the columns of the *Engineering News-Record*,[8] and the answer was almost unanimously in the negative. Sir Alexander Houston has recently published a critical analysis of the available data, and has expressed the feeling that the importance of the "stormy fermenters" in connection with gastro-intestinal disorders caused by water supplies has been unduly magnified. Scientific questions, however, never reach their final solution by a majority vote or by the verdict of any authority, however eminent and experienced.

The plain fact is that the evidence is quite inadequate for a scientific decision. The significance of the "stormy fermenters" in chlorinated water supplies is not known. It must be admitted also that the nature and classification of these anaerobic organisms, apparently somewhat hastily denominated *Bacillus welchii*, remain to be determined. It certainly should not be too readily assumed that these anaerobic bacteria in water supplies are the cause of gastro-intestinal disturbances. As is well known, feeding experiments with *Bacillus welchii* both on monkeys and on man himself have not given conclusive evidence of pathogenic power.

Both the practical and the scientific aspects of water-borne outbreaks of gastro-intestinal disease make this a particularly attractive, albeit difficult problem for investigation.

2. Abderhalden: Ztschr. f. physiol. Chem. **73**: 15, 1911.
3. Muir: J. Path. & Bacteriol. **18**: 179, 1913.
4. Sehrt: Berl. klin. Wchnschr. **41**: 497, 1904.
5. Hansemann: München. med. Wchnschr. **30**: 572, 1904.
6. Johnsson: Ugesk. f. Læger **82**: 326, 1920.
7. Larner, H. B.: Bacillus Welchii in a Public Water Supply as a Possible Cause of Intestinal Disease, this issue, page 276.
8. Engineering News-Record **86**: 929, 1921.

ALASTRIM

Acute specific fever resembling a mild form of smallpox in many of its symptoms and exanthematous features has been observed in various parts of the world, and has been designated by a number of names, such as varioloid, varicella, Kaffir milkpox, Amaas, Sanaga smallpox, West Indian modified smallpox, and perhaps most consistently as alastrim, a name of Brazilian origin. The justification for calling attention to the debated subject at this time lies in the fact that quite recently an epidemic of alastrim occurred in the island of Jamaica, to which it is supposed to have been spread from Cuba or South America. In September, 1920, the number of cases in the city of Kingston alone was variously estimated at from 400 to 700.

Alastrim differs from variola vera in the relative mildness of its course. A recent observer of the Jamaican epidemic points out that the effort to distinguish accurately between the two diseases is the more difficult because of the extraordinary variation in severity in what has in various epidemics been regarded as true smallpox. Mild cases of smallpox often show, however, only a few scattered pocks and a slight fever, while in alastrim the initial fever is high and the body is covered with pocks often broadly confluent; and yet the patients are not especially ill, the liability to second infection is slight, and the mortality is trifling. The prognosis in alastrim is good; records of more than a quarter of a million cases have shown a mortality below 2 per cent.

One of the mooted points in regard to the identity of alastrim concerns the possible efficacy of the vaccination against smallpox to protect the subject against the related disease. Several investigators have concluded that Jenner's vaccination is protective in either case.[1] In a recent report of the Jamaican epidemic, MacCallum and Moody[2] point out that "an effective protection must be held to be evidence of their extremely close relationship, while any failure to protect might be regarded as an indication that alastrim is a different disease, since the great effectiveness of vaccination as a protection against smallpox is attested by the experience of more than a century, and is absolutely established in spite of the recurrent outcry of ignorant people who attempt to interfere with the use of this great triumph of preventive medicine." MacCallum and Moody recognize the difficulty of forming a precise idea of the efficacy of vaccination in protecting against alastrim. They conclude, however, that since among the actual cases of the disease there were so few patients that presented indubitable evidence of having been recently vaccinated, and since the escape of those successfully vaccinated is so well attested in large numbers of cases, it seems necessary to believe that vaccination is an extremely effective protection. Furthermore, as the alastrim form of disease is as easily communicable as the most severe smallpox, no consideration should excuse neglect of prompt vaccination and revaccination as well as proper quarantining, even though the death rate is low.

So long as it is impossible to state with certainty what the etiologic relations between smallpox and cowpox or vaccinia are, there is no anomaly in treating alastrim as an independent though somewhat related disease. The oft reported existence of long-continued epidemics of so-called mild forms of smallpox in various regions, including the United States and Canada, further justifies a careful consideration of the possibility that the less severe affection with low mortality may in fact be identical with alastrim rather than another of the exanthems. MacCallum has done excellent service in directing attention anew to this question.

1. Castellani, A., and Chalmers, A. J.: Manual of Tropical Medicine, London, 1919, p. 1491.
2. MacCallum, W. G., and Moody, L. M.: Alastrim in Jamaica, Am. J. Hyg. 1: 388 (July) 1921.

INSTITUTIONAL DIETARY PROBLEMS AND THE MEATLESS DIET

Dietetics often encounters, in both private homes and public institutions, practical difficulties which are occasioned by the economic status, customs, prejudices, location and religious dictates of the patients rather than by purely scientific motives. Any physician who is engaged in practice among communities which include a conglomeration of races will recognize the validity of this statement. Foods that are specifically prescribed by the dietitian may be promptly proscribed by him for whom they are ordered. To one religious sect the eating of the flesh of animals becomes a religious impossibility. Others object on humanitarian or esthetic principles to such a dietary practice. Still others, following the literal interpretation of the Mosaic law, accept a dietetic ritual which forbids the mixing of meat and milk and their derivatives, and likewise directs that all implements and containers used for milk must be kept uncontaminated by any meat product, and vice versa.

Despite what we may think of the merits or disadvantages of edible flesh and its products, it becomes necessary in many institutions to cater to the varying needs of persons in terms of something more than mere scientific propriety. When a diversity of patients of differing religious faiths or culinary cults are involved, this sometimes necessitates special diet kitchens for such specific demands. In many instances the difficulty of added expense and effort would be solved if meat were entirely omitted from the regimen. Before committing themselves to such a policy, the authorities of the Beth Israel Hospital, New York, addressed themselves to a number of prominent students of nutrition in this country. The question presented concerned the possibility of preparing a well balanced meatless diet which would include all the essentials for nutrition; in

other words, the suitability of the so-called lactovegetarian diet was made the subject of professional inquiry. The consensus of opinion obtained from F. G. Benedict, R. H. Chittenden, W. J. Gies, Graham Lusk, Lafayette B. Mendel, E. V. McCollum and V. C. Vaughan indicated no hesitation whatever in the conclusion that meat is not indispensable for human well-being.[1]

This decision, attesting the belief that no disadvantage would accrue to an institution which found it advisable to adopt a lactovegetarian regimen for its patients, if circumstances rendered this plan advantageous for other than physiologic reasons, may be helpful in many situations. It should not be interpreted, however, as a rejection of the claims of meat for a place in the dietary or as a judgment against flesh products. "The regard in which meat is held is probably largely due to its peculiar texture and to certain substances found in its juices which give it a pronounced and agreeable flavor and exert a stimulating effect upon appetite and digestion."[2] The road to good nutrition is not single tracked.

Current Comment

THE VALUE OF CASE REPORTS

Rudolf Virchow once said that medical literature was sprinkled with case reports like fly specks. This and similar comments by others have caused many to feel that the reporting of single cases is an unworthy sort of procedure, more indicative of a desire for publicity than the wish to contribute to medical knowledge. Such a derogatory attitude is anything but just. Many of the most important contributions to medical science are in the form of case reports. The only way we can learn about rare conditions is by the accumulation of data provided by each of the several persons who have observed instances of them. No one case gives the whole picture, but when we have accumulated enough separate views we can reconstruct a working model of the process. The success with which this can be done depends largely on the accuracy and clearness of each of the several exposures. Some of the most interesting items in medical literature are case reports, and the well written report of an unusual case is always good reading. It requires much skill and judgment to select the essentials, and even more to discard the valueless items, to assay and interpret the existing literature. The preparation of a case for report is the best possible stimulus for accuracy and thoroughness in clinical and laboratory study. To be able to write a good case report is an art. Furthermore, since our knowledge of all diseases that occur infrequently must be built up from such isolated observations, it is an obligation to medical science to report each and every such case. Were this always done, and well done, we should know much more concerning the frequency of rare diseases, their manifestations, course and treatment, and there would be less occasion to puzzle about obscure pathologic conditions.

1. Frank, L. J.: The Meatless Diet, Mod. Hosp. 17: 429 (Nov.) 1921.
2. Rose, Mary S.: Feeding the Family, New York, the Macmillan Company, 1916.

THE SEAT OF IMMUNITY AND SUSCEPTIBILITY TO TUMORS

Experimental investigations of tumor growth have indicated that probably there are factors which tend to produce immunity to certain types of neoplasms, as well as conditions that afford greater susceptibility to them. It is obviously of importance to know where the inhibitory or predisposing influences or components of the organism are located in the body. If they are present in the tissue fluids and the circulating blood, there is some prospect not only of employing them to modify the incidence or growth of tumors, but also of discovering what is the nature of the substances that lend refractoriness or susceptibility to the host. Evidence has already been furnished to show that the intraperitoneal injection of blood from immune animals into susceptible ones is without retarding influence on the growth of tumors in the latter.[1] Recently Kross[2] has studied the possible effects of parabiosis between refractory and susceptible animals whereby, through surgical union, they are brought into very intimate biologic relationship. "Immune substances," if they exist free to circulate, ought in this way to be able to be transferred from one partner in the couple to the other. The various surgically united animals were inoculated with tumors, but there was no departure from the results characteristic of the transplantable neoplasms employed. Even a parabiotic union failed to increase the susceptibility of the immune or decrease the immunity of the susceptible. Wherever the regulating factors may reside, they are evidently not easily transported in the organism.

1. Kross, I.: J. Cancer Res. 6: 25 (Jan.) 1921.
2. Kross, I.: Parabiosis and Tumor Growth, J. Cancer Res. 6: 121 (April) 1921.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ARKANSAS

Hospital News.—The Senate has passed a bill, introduced by Senator Robinson, granting to the Leon Levi Memorial Hospital Association two lots for the construction of hospital buildings on the government reservation at Hot Springs.

CALIFORNIA

Fined for Unlicensed Practice.—It is reported that Takeo Yanagawa, a Japanese of Oakland, was recently fined $500 following conviction on the charge of practicing medicine without a license.

CONNECTICUIT

Gift to Yale Medical School.—An anonymous pledge of $100,000 has been received for the establishment in the school of medicine of the William H. Carmalt Professorship Fund.

FLORIDA

Central Florida Medical Society.—In an effort to coordinate the members of the county medical societies in the fifth

and eighth councilor districts of the state medical association, the Central Florida Medical Society was recently organized at Ocala. The following officers were elected: president, Dr. Henry C. Dozier, Ocala; vice presidents, Marion County, Dr. James H. Walters, Ocala; Alachua County, Dr. Matthews H. DePass, Gainsville; Sumter County, Dr. Henry S. Cherry, Center Hill.; Citrus County, Dr. P. J. Hadson, and secretary-treasurer, Dr. Robert D. Ferguson, Reddick.

ILLINOIS

Trichinosis and Leprosy Reported.—Three cases of trichinosis and one case of leprosy were reported to the state department of public health during the first weeks of January. The trichinosis cases occurred in DuPage, Hancock and Livingston counties, while the case of leprosy occurred in Rockford.

Moth Collection to be Sold.—Dr. William Barnes, Decatur, plans to sell his private collection of butterflies and moths, said to be the largest and most valuable private collection in the United States, to the Smithsonian Institute, and to give the money to the Macon County Hospital. The collection contains more than 10,000 varieties of *Lepidoptera*.

New County Medical Society.—At a meeting of physicians of Ford County held at Paxton, January 10, the Ford County Medical Society was organized as a branch of the Illinois State Medical Society. The following officers were elected: president, Dr. Samuel M. Wylie, Paxton; vice president, Dr. Robert N. Lane, Gibson City, and secretary-treasurer, Dr. Walter L. Cottingham, Paxton.

Quarantine Rule Violated.—The state department of health announces the occurrence of a number of violations of the recently modified quarantine ruling, which was designed to apply only in cities where a full-time health commissioner was employed as the director of an efficient department of health, and where other specific conditions were met. Under no circumstances is the adoption of modified quarantine regulations permitted without first obtaining written authority from the state director of public health.

Decrease in Cost of Diagnostic Laboratory Tests.—The cost of making diagnostic examinations of specimens in the laboratories of the state department of public health has decreased more than 81 per cent. since 1906. The average cost of each test made in 1906 was $1.23, whereas the average cost for each test made during the six months ending Dec. 3, 1921, was only 23 cents. In 1906 there was a total of 2,370 specimens examined at a total cost of $2,939, as compared with 54,002 for the six months ending Dec. 21, 1921, at a cost of $12,865.

Chicago

The Robert Koch Society for the Study of Tuberculosis.—The forty-third annual meeting of the society was held, January 23, at the City Club, under the presidency of Dr. Max Biesenthal.

Fire at Loyola University School of Medicine.—The damage caused by a fire, January 9, believed to have been started by crossed electric wires, to instruments and specimens in Loyola University School of Medicine, is estimated at $50,000.

Superior Court Judge Rules on Vaccination.—Recently Judge David of the superior court handed down a decision relative to compulsory vaccination in schools. The decision is important and his instructions to the jury are reproduced in part in the Department of Social and Industrial Medicine in this issue of THE JOURNAL.

Right of Way for Physicians.—By displaying on the radiator of their cars a sign which may be obtained at the city clerk's office, physicians may obtain the right of way, wherever possible, at bridges, processions or public gatherings.

Venereal Disease Institute.—Arrangements have been made for a venereal disease institute to be held in Chicago, March 13-18, under the auspices of the U. S. Public Health Service and directed by the Illinois State Department of Public Health. Physicians, social workers and other interested persons are invited to attend. Programs and registration cards may be obtained from the Illinois State Department of Health, Springfield.

INDIANA

Physician Becomes Mayor.—Dr. John C. Quick was installed mayor of Muncie, January 1.

State Board of Medical Registration and Examination.—The board at its semiannual meeting, January 10, reelected the following officers: Dr. William A. Spurgeon, Muncie, president; Dr. Eldrige M. Shanklin, Hammond, vice president; Dr. William T. Gott, Crawfordsville, secretary, and Dr. Paul R. Tindall, Shelbyville, treasurer. There will be no January examination for the licensing of physicians.

Indiana Academy of Ophthalmology and Oto-Laryngology.—At a meeting of the Indiana Academy of Ophthalmology and Oto-Laryngology, held at Indianapolis, January 19-20, the following officers were elected for the ensuing year: president, Dr. Delbert O. Kearby, Indianapolis; first vice president, Dr. Henry C. Knapp, Vincennes; second vice president, Dr. John W. Carmack, Indianapolis, and secretary-treasurer, Dr. Bernard J. Larkin, Indianapolis.

IOWA

Sioux Valley Eye and Ear Academy.—The eighteenth semiannual session of the academy was held at Sioux City, January 24, under the presidency of Dr. Frank I. Putnam, Sioux Falls, S. D.

MARYLAND

Personal.—Dr. Winford H. Smith, superintendent of the Johns Hopkins Hospital, Baltimore, has been awarded the Distinguished Service Medal for services rendered during the World War. Dr. Smith was instrumental in bringing to Surgeon-General Gorgas' office many practical ideas which helped the Medical Corps meet many of its problems during the emergency.

Clinics at Medical Meetings.—The Baltimore City Medical Society has announced an innovation to its regular meetings. During the present year a number of clinical nights will be held, at which time interesting cases will be reported or presented before the society by the various members. Dr. Thomas B. Futcher is president and Dr. Frank S. Lynn secretary of the society.

Baltimore Second in Drug Addicts Arrests.—Two hundred and twenty drug addicts were arrested in the Baltimore area during five months in 1921, according to a report by the narcotic division of the Internal Revenue Bureau, which credits Baltimore with the second highest number of arrests. In the Little Rock, Ark., area, which leads in the number of arrests, 166 convictions were obtained after 364 arrests.

School Health Work to Be Organized.—Dr. C. Hampson Jones, health commissioner, has been authorized to begin the organization of his force of assistants for medical work in the public schools of Baltimore. He is to appoint at once three women physicians and three additional men physicians at $1,000 each a year for the physical examination of pupils in the high schools, and a part-time psychiatrist, at $1,800 a year, to examine children who are defective and not proficient in their studies. This official is to work in the schools two hours daily for five days a week during the school year. Later, six more women physicians and six men physicians at $100 a month for three months will be engaged.

Movement for Hospital for Tuberculous Colored Patients.—Dr. Samuel J. Fort, deputy state health officer for southern Maryland, has started a movement in his section, particularly in Charles County, for the proper care of colored tuberculous patients, and has received from a citizen of that county the offer of 25 acres of land as a site for a hospital. One hospital of colored tuberculous patients is to be constructed by the state on a 100 acre site near Henryton, Carroll County; but, in the opinion of Dr. John S. Fulton, secretary of the state department of health, one hospital for such a purpose is only a beginning, and the establishment of an additional hospital should be encouraged. No definite action has been taken.

Officers of Baltimore County Medical Association.—The following officers were elected at the meeting of the Baltimore County Medical Association, January 18, at the Medical and Chirurgical Faculty Building, Baltimore: Dr. George S. M. Kieffer, Morrell Park, president; Dr. Albert L. Wilkinson, Raspeburg, vice president, and Dr. William A. Bridges, Towson, secretary and treasurer. Dr. Henry A. Naylor, the retiring president of the Association, made a plea for a general hospital for Baltimore County, capable of relieving the city institutions of the excess burden of the county's work. The cost of such a hospital was estimated at from $200,000 to $300,000. General approval of the plan was expressed.

MASSACHUSETTS

Parlor Meetings on Mental Hygiene.—Under the auspices of the National Committee and the Massachusetts Society for Mental Hygiene, a series of parlor meetings will be held. It is planned to bring before the public the prevalence of

mental diseases and the need for action, and it is expected that the movement will become nation-wide. In Massachusetts alone, in 1921, more than 20,000 patients were treated in state hospitals for mental diseases, at a cost to the state of not less than $7,000,000.

MINNESOTA

Hennepin County Medical Society.—At the meeting of the society held at Minneapolis, January 1, Dr. Arthur E. Benjamin was elected president, to succeed Dr. George D. Head; Dr. Axel E. Hedback was made first vice president; Dr. James S. Reynolds, second vice president; Dr. Rae T. La Vake, secretary and treasurer, and Dr. Fred L. Adair, librarian.

MISSOURI

Hospital News.—President Harding has signed an executive order for the building of a soldiers' hospital at Jefferson Barracks, St. Louis, which, it is estimated, will cost $1,000,000.

Medical Lectures for the Laity.—The second annual series of special lectures on medical and surgical subjects by faculty members of the Washington University Medical School, St. Louis, began, January 8. There are to be ten lectures, the last one being scheduled for March 12. They are to be held in the auditorium of the school of medicine building and are free to the public, for whose information the lectures are given.

NEVADA

Personal.—Dr. Sidney K. Morrison, Reno, is recovering from sepsis caused by puncturing the skin on his hand with a needle during an operation.

NEW JERSEY

Trade Union Plans Sanatorium.—The Trades Union Antituberculosis Association, Newark, for a number of years has undertaken the free care of industrial workers who are members of the industrial association. The union is now considering a plan to raise $25,000 for a country home, where adult tuberculous patients as well as children will receive treatment.

NEW YORK

Woman Physician to Be Health Officer.—Dr. Maryland E. Burns has been made health officer of Glen Cove, L. I., to succeed Dr. Joseph B. Conolly. Dr. Burns, who is only 24 years old, is a graduate of both law and medicine.

Testimonial Dinner to Dr. Pilgrim.—Dr. Charles Winfield Pilgrim, New York City, who retired from the chairmanship of the state hospital commission, December 12, after forty years' continuous service, was given a testimonial dinner, December 8. One hundred and fifteen state hospital associates were present. Dr. Pilgrim was presented with a silver service.

Legislative News.—A bill has been introduced into the state legislature providing medical service for pupils attending all the public schools of the state. The proposed service will include the services of physicians, surgeons and dentists for the purpose of ascertaining the existence of diseases or physical defects and to give advice for the correction and prevention of such diseases and defects and provide treatment for them.

"New York Medical Week."—The first issue has just appeared of a new periodical, entitled *The New York Medical Week* which is to be published under the auspices of the Medical Society of the County of New York, and to present the activities of the medical organizations of Greater New York. It is hoped to have the periodical act as a forum for general discussions and to announce each week meetings which are to be held, and information relative to legislation and other current topics. It is announced that subscribers may depend without question on every statement given in the advertising pages, all advertisements answering to the requirements of the Council on Pharmacy and Chemistry of the American Medical Association.

New York City

Harvey Society Lecture.—Mr. Joseph Barcoft, F.R.S., fellow, Kings College, Cambridge, England, will deliver the sixth Harvey Society lecture at the New York Academy of Medicine, February 11, on the subject of "The Raison d'Être of the Red Corpuscle."

Association for the Prevention and Relief of Heart Disease.—At the last quarterly meeting of the board of governors of the association, Dr. T. Stuart Hart was elected president; Dr. Robert H. Halsey, vice president; Dr. William P. St. Laurence, secretary, and Mr. Ray Morris, treasurer.

Middleton Goldsmith Lecture.—The Middleton Goldsmith Lecture of the New York Pathological Society will be delivered at the New York Academy of Medicine, Friday evening, February 3, at 8:30 o'clock, by Prof. Thomas Hunt Morgan of Columbia University. His subject will be "Some Possible Bearing of Genetics on Pathology."

Immunizing Children Against Diphtheria.—Dr. William H. Park, in charge of the bureau of laboratories of the health department, states that during 1921, with the aid of the American Red Cross, 145,000 children received immunizing treatment against diphtheria, and that from the latter half of 1920 to the latter part of 1921, there has been a decrease of 1,852 cases of diphtheria and of 155 deaths from this disease. Dr. Park points out that the cost of 10,722 cases of diphtheria in the first six months of 1921 and 611 funerals was $581,825, while the cost of immunizing 1,000,000 children against diphtheria would be but $250,000.

OREGON

New Officer for the State Board of Health.—At the annual meeting of the state board of health, January 10, Dr. Charles J. Smith, Portland, was elected president of the board to succeed Dr. Willis B. Morse. Dr. John H. Rosenberg, Prineville, was elected vice president and Dr. Frederick D. Stricker, Portland, reelected secretary-treasurer and state health officer.

PENNSYLVANIA

Smallpox in Pittsburgh.—City health officials announce that precautionary measures are being taken to prevent the spread of smallpox. Six cases of the disease have been reported in the last three weeks from the Woods Run district.

Hospital News.—The contract has been awarded for the construction of the new Robert H. Crozer Hospital at a cost of $205,500. An endowment fund of $200,000 for the hospital was left in the will of Mr. Crozer. The building will be constructed on the Chester Hospital grounds and will be a separate institution.

Meeting of the Medical Examiners' Association.—The annual meeting and dinner of the Medical Examiners' Association was held, January 13, in Philadelphia. The following officers were elected for the ensuing year: president, Dr. John L. Redman; treasurer, Dr. Howard M. Kuehner, and secretary, Dr. William H. Carpenter.

Medical Club of Philadelphia.—At the annual meeting of the club held, January 20, the following officers were elected for the ensuing year: president, Dr. Ernest Laplace; first vice president, Dr. Seth MacCuen Smith; second vice president, Dr. Alexander MacAlister; secretary, Dr. William S. Wray; treasurer, Dr. Lewis H. Adler, Jr., and governor, Dr. Francis X. Dercum.

Philadelphia Association of Industrial Medicine.—At the meeting of the association held recently, the following officers were elected for 1922: president, Dr. Lorne E. Hastings, J. G. Brill Company; vice president, Dr. Alma M. Hinman, Bell Telephone Company; secretary, Dr. Katherin Starkey, Bell Telephone Company, and treasurer, Dr. Earl H. Ingram, Cramp's Shipbuilding Company.

Philadelphia

Lecture Course on Preventive Medicine.—The first course of lectures on preventive medicine under the Anna Howard Shaw Memorial Foundation was begun at the Woman's Medical College of Pennsylvania, January 17, and will continue each Tuesday until March 21. The lectures are free to the public.

TENNESSEE

Hospital News.—Funds have been secured for a new $200,000 hospital at Corinth.

TEXAS

Personal.—Dr. Manton M. Carrick, Austin, has resigned as president of the state board of health of Texas, effective, January 20.

VERMONT

Conference of State Medical Society and Public Health Workers.—As a result of the discussion in the house of

delegates at the annual meeting of the Vermont State Medical Society held in October, 1921, as to the conduct of public health work in the state, a meeting was called, January 11, in Burlington to which were invited the workers and representatives of the different public health branches for a general discussion of the question. Dr. Schuyler W. Hammond, Rutland, spoke on "Some Socialistic Tendencies of Medicine"; Dr. Clarence H. Beecher, Burlington, discussed the relation of the general practitioner toward the public health worker, and Edward J. Rogers, Pittsford, spoke on the "Tuberculosis Problem." Dr. Beecher emphasized six points as means likely to improve relations between the medical profession and the public health worker: (1) central control of all public health activities by the state board of health; (2) determined opposition to paternalism in medicine; (3) careful discrimination between public health work and private practice; (4) a committee from the constituent county societies of the state medical society to cooperate with the board of health; (5) necessity of keeping in mind that public opinion is the final arbiter in all health matters, and (6) the fact that the general practitioner is the most widespread public health worker. It was proposed that a public health council should be made up of one representative from each organization or society doing public health or welfare work in Vermont, including the executive department, the state board of health, the state board of charities and probation, director of state institutions, state medical society, Vermont Tuberculosis Association, American Red Cross and the Children's Aid Society, and that a committee of seven be appointed to draw up plans for such a public health council and report at the next meeting of the state medical society.

VIRGINIA

Hospital News.—Mount Sinai Hospital, Norfolk, was dedicated and thrown open to the public, Dec. 29, 1921.

WEST VIRGINIA

Hospital News.—The citizens of Morgantown have inaugurated a campaign for a community hospital.

Gift to Medical School.—The West Virginia University School of Medicine, Morgantown, will benefit from the gift of 1,900 acres of rich coal land recently made by I. C. White to the state university.

WISCONSIN

New Building for Medical School.—Marquette University School of Medicine, Milwaukee, has announced the purchase of a three-story brick building for use of the departments of physiology and pharmacology of the medical school.

Law Suggested to Compel Fireproof Hospitals.—The Wisconsin State Industrial Commission is considering the advisability of amending the state building code to require all hospitals hereafter constructed to be of fireproof material. The commission is sending a circular letter to physicians and surgeons in the state, in which it asks for an expression of opinion as to the advisability of the change.

PHILIPPINE ISLANDS

National Conference on Infant Mortality and Public Welfare.—The first national Conference on Infant Mortality and Public Welfare, was held, Dec. 6-10, 1921, at Manila. More than a thousand members from the various islands attended this meeting. Among the speakers were: Dr. José Fabella, public welfare commissioner; Dr. Fernando Calderon, dean, College of Medicine and Surgery, University of the Philippines; Dr. Rebecca Parish, Mary J. Johnston Hospital; Dr. José Albert, professor of pediatrics, University of the Philippines; Dr. Joaquin Quintos, professor of pediatrics, University of St. Thomas, Manila; Dr. Camelo Peñaflor, Philippine Island Antituberculosis Society, and Dr. Vicente de Jesus, director of the Philippine Health Service. A garden party was given, December 6, by Governor-General and Mrs. Leonard Wood at the Malacanan Palace.

CANADA

Ambulance for Belleville.—The graduate nurses of the city of Belleville are procuring an up-to-date ambulance for the use of the city, and a grant of $500 toward the purchase has been recommended by the city council.

Fees on Maternity Cases.—The Edmonton Medical Association has fixed a minimum fee of $25, and the Calgary, Alta., Medical Association has fixed a minimum fee of $35, with mileage added, for all maternity cases. In view of the fact that numerous families are unable to meet these charges the Mount Vernon, Alta., Board of Health, asks that the government fix a minimum fee of $20, with a stated mileage charge for over ten miles, and that the government contribute $10, in each case, plus mileage.

Liquor Prescription Controversy.—In connection with the liquor prescription controversy, a conference between the medical men and the attorney general's department, Ontario, will be held shortly. Many suggestions have been forwarded by medical men, and they will be taken up and discussed at the conference. Dr. F. Marlow stated recently that the attitude of the board of license commissioners is simply a slander on the profession, and that the profession had reached the point at which it does not propose to stand such slanders any longer. Dr. Marlow presses the fact, admitted in legislative circles, that there is no legislation fixing the number of prescriptions that a physician may issue, but it is left to the arbitrary ruling of the license board, which has been gradually reducing the maximum. The attitude of the license board on that point is that the alternative of calling in the individual physician personally and interviewing him is not as practical as the fixing of a maximum.

GENERAL

Rockefeller Institute Anniversary.—The Rockefeller Institute for Medical Research celebrated the twentieth anniversary of its foundation, January 20. The speakers were: Dr. William H. Welch, board of scientific directors, and John D. Rockefeller, Jr., board of trustees.

Dr. Work May Become Postmaster General.—It is reported that Dr. Hubert Work, President of the American Medical Association and now first assistant postmaster general, may be named postmaster general to succeed Will H. Hays, who is to resign to become the head of the motion picture industry of the country.

Child Labor Day.—The annual observation of Child Labor Day will be held, January 29. Reports from the U. S. Department of Labor, Children's Bureau, state that practically every child in the Texas cotton belt of 10 years of age or over is employed in the fields, hoeing, plowing and harrowing, for ten or twelve hours a day. Teachers report that half of the children who should have been in school by September did not register until November or later. Illiteracy on the part of father or mother was reported for from 7 to 9 per cent. of the white families and about a third of the colored families visited.

Infant Mortality Rates.—Record low rates of infant mortality are reported by the bureau of the census in fifty-one cities of the United States, based on estimates for 1921. For the group of fifty-one cities, the infant mortality rate is 74 per thousand births, as against a rate of 90 in 1920, for forty-four cities. The lowest infant mortality rate, 47 per thousand births, appears for the cities of Portland, Ore., St. Paul and Seattle, and the highest rate, 11 per thousand, for Fall River, Mass. The greatest decrease since 1920 appears for Lowell, Mass., with a rate of 90 for 1921, against a rate of 135 for 1920. No city shows a higher rate for 1921 than for 1920, though Albany and Salt Lake City maintain the same rates for the two years, 77 and 72, respectively.

Bequests and Donations.—The following bequests and donations have recently been announced:

Jewish Maternity Hospital, Philadelphia, $60,000, ultimately, from the estate of the late Henry Jacobs.

Misericordia Hospital, Philadelphia, and three other Catholic institutions to share equally, $31,500, from the estate of the late William H. Gunn.

Pennsylvania Hospital, Philadelphia, $15,000, by the will of Edward W. Coates.

Worcester Hahnemann Hospital, $10,000, for free beds; the Hospital Cottages for Children, Baldwinville, Mass., $5,000; Worcester Y. M. C. A., $1,000, for the sick bed fund; the Memorial Hospital, Worcester, and the Home for Aged Women, Worcester, each $1,000, by the will of Abbie A. Bigelow.

Lenox Hill Hospital, New York, and the New York Association for the Blind, each $5,000, by the will of Ida Barth Iden.

Memorial Hospital, Orange, N. J., $2,000, by the will of Mrs. Calista S. Mayhew of South Orange.

St. Luke's Hospital, South Bethlehem, Pa., fifty shares of Penn Securities stock, the income of which to go to charity patients of the institution, by Martin D. Kern of Allentown.

LATIN AMERICA

Plague at Brazil.—An epidemic of plague has broken out at Maranhão. In addition to personnel, the public health department sent antiplague vaccine and serum, disinfecting apparatus and other sanitary material.

Medical Press Congress in Cuba.—At the recent congress of the Cuban Medical Press, the following officers were elected: president, Dr. J. F. Arteaga; vice presidents, Drs. C. M. Piñeiro, A. González Curquejo, F. Hart, E. R. Aragón and G. Aróstegui; secretary, Dr. S. Ramos. The several sessions were well attended and the closing speech was delivered by Dr. Juan Guiteras, secretary of public health and beneficence.

Sanitary Legislation at El Salvador.—For the first time in the history of El Salvador, the federal constitution contains several provisions relating to public health. They were inserted by Dr. Eduardo Alvarez, one of the division chiefs of the department of public health. The present director of public health is Dr. L. V. Velasco, under whose direction the department was recently reorganized into six sections. The sanitary code has also been amended.

Personal.—Prof. G. Dumas of Paris spent a month recently at Santiago, Chile, where he aided in organizing the chair for an annual five month course of lectures by a French professor, mentioned elsewhere.——Dr. J. A. Presno of Havana, founder and director of the *Revista de Medicina y Cirugía* has been given the decoration of the Légion d'Honneur. The cablegram announcing this was received the day of the opening of the Cuban medical congress, of which he was president.——Dr. Miguel Villavicencio, a prominent Peruvian physician and his wife are about to return to their country after spending several weeks in this country on their return trip from Europe.

FOREIGN

Seventh Centennial of University of Padua.—Festivities are being planned for this spring in honor of the founding of the University of Padua in 1222. Professor Lucatello, the rector of the university, is in charge of the arrangements.

Personal.—Prof. R. Bárány of Upsala was invited to address the Utrecht branch of the Netherlands Medical Association. His topic was the vestibular apparatus and the cerebellum. A second lecture, on the organization of the movements of the eyes, was delivered by request at Amsterdam.

Merger of Two German Periodicals.—The *Berliner klinische Wochenschrift* and the *Therapeutische Halbmonatshefte* have been united to form the *Klinische Wochenschrift*, which enters on its first year this month. It is published by J. Springer of Berlin, and Posner is the editor in chief, as of the weekly predecessor.

Japanese Donation to Vienna University.—The *Wiener klinische Wochenschrift* relates that the Japanese ambassador at Vienna has presented the sum of 6,500,000 crowns to the rector of the university as a personal donation to relieve the financial straits of the university, in tribute to the scientific work being done there in spite of the unfavorable circumstances.

Prophylaxis of Goiter.—At the recent congress of the Italian Neurologic Society a committee was appointed to study ways for systematic application on a large scale of means to ward off cretinism and goiter in the Italian Alps. The committee consists of three members, Professor and Senator L. Bianchi, Professor Lugaro and Professor Cerletti, working in cooperation with Prof. E. Levi, chief of the Italian Hygiene Institute.

Scandinavian Neurology Congress.—The *Ugeskrift for Læger* publishes an appeal signed by two of the leading neurologists in each of the four Scandinavian countries for the organization of the neurologists of the northland. It is proposed to hold a meeting, Aug. 30 and 31, 1922, at Copenhagen to found the Scandinavian Neurologic Society. Dr. Viggo Christiansen, Lille Strandvej 18, Hellerup, Denmark, is the moving spirit in organizing the August meeting.

International Congress for Sexual Reform on Scientific Basis.—At the first congress of this nature, held at Berlin in September, as already mentioned, it was decided to hold the next meeting at Rome, in June, 1922. The committee of organization includes Prof. A. Mieli of Rome, Magnus Hirschfeld of Berlin, Havelock Ellis of England and Rutgers of Holland. Prof. A. Mieli is acting as secretary at present. His address is via Casalmonferrato 33, Rome.

A French Chair in the University of Santiago, Chile.—Arrangements have been made between the governments of Chile and France by which a course of lectures by a French professor will be delivered at the University of Santiago, the two governments sharing the expense. The *Presse Médicale* of Paris says that a similar arrangement is already in force with the universities of Bucharest and Madrid. The course at Santiago will cover five months, from April to August. Dr. G. Dumas, professor of psychology at the Sorbonne, Paris, has been in Santiago to complete the arrangement, and the medical faculty elected him an honorary member.

Deaths in Other Countries

Dr. **Reginald Farrar,** department of Epidemics Commission of the League of Nations, died in Moscow, December 28, from typhus fever.——Dr. **J. A. Wijnhoff,** a prominent internist of Utrecht, long retired from practice on account of chronic glaucoma.——Dr. **L. Barreto,** dean of the profession at Bogota.

CORRECTION

Potassium Nitrite in Osteomyelitis.—In this title, published Dec. 24, 1921, page 2091, the word "nitrite" should have been "nitrate."

Government Services

Army Supplies for Russia Relief

The Secretary of War has been authorized by Congress to turn over surplus army medical supplies to the amount of $4,000,000 to relief organizations for distribution in the famine districts of Russia. The measure passed both the Senate and the House this week, and has gone to the White House for the signature of the President. The original bill passed by the Senate fixed no limit to the amount of medical supplies to be given the Russian relief, but this was amended to a maximum of $4,000,000. The supplies will be used almost exclusively in the Volga basin and in Russian Armenia, where it is reported that epidemics of malaria, relapsing fever and typhus fever are epidemic. The American Relief Administration is working to eradicate these diseases for the protection of the children, 1,400,000 of whom it is helping. The medical supplies must be used within four months, according to the act.

Appropriation for Veterans' Bureau

Administrative expenses of the U. S. Veterans' Bureau are included in an independent appropriation bill presented to the lower house of Congress. Besides covering all other contingent items, the measure carries $64,658,680 for medical and hospital service. This is an increase over the appropriation for the current fiscal year of $6,658,680, and is in accordance with the recommendation of the budget bureau. The amount for vocational rehabilitation is $127,000,000. An appropriation of $160,000,000 for the payment of claims for military and naval compensation is also contained in the bill.

Conference of Neuropsychiatrists in Veterans' Bureau

Director Forbes of the U. S. Veterans' Bureau has called a conference, February 2, of neuropsychiatrists from various parts of the country in Washington, D. C., for the purpose of making recommendations for the care and treatment of former service men now suffering with mental diseases. Ways and means of hospitalization of insane and nervous patients, the question of the necessity of federal commitment and the disposition and permanent treatment of epileptic and mental deficients who can get along without governmental care will be the subjects of discussion at the meetings.

Opening of Sanatorium at Dawson Springs, Ky.

Assistant Secretary of the Treasury Clifford has announced that the new government sanatorium at Dawson Springs, Ky., will be formally opened, February 22. The new hospital was erected at a cost of $2,300,000. Col. H. E. Whitledge, former medical officer at Fort Bayard, N. M., will be superintendent of the Dawson Springs Sanitarium.

States Utilizing Service Under Sheppard-Towner Bill

Twenty-two states, thus far, have accepted the provisions of the Sheppard-Towner Infant and Maternity Law, according to announcement made by the Children's Bureau.

Foreign Letters

LONDON

(From Our Regular Correspondent)

Dec. 26, 1921.

Conference for the International Standardization of Serums

By permission of the government, a conference on the international standardization of serums has been held at the ministry of health by the health committee of the League of Nations. The president of the committee, Professor Madsen of Denmark, presided. All the principal European countries were represented, including Germany, which for the first time since the war participated in an international congress in this country. Various subcommittees were formed which presented in plenary congress the following reports:

Subcommittee for Antidiphtheritic and Antitetanic Serum (chairman, Dr. Louis Martin, subdirector of the Institut Pasteur, Paris): The committee considered desirable and possible the fixing for these serums of an international unit. For diphtheria antitoxin, two units are at present used: (*a*) the German, determined in the Frankfort Institute for Experimental Medicine by Ehrlich's method, and (*b*) the unit determined in the public health bureau at Washington. Between these two units there are only small differences. To determine these accurately, the standard serums and test toxins for the necessary researches will be given to the various participating institutes both by the Frankfort Institute and by the Washington bureau. The result of the experiments performed with these serums and toxins at the several laboratories represented will be delivered on completion to the Danish state serum institute, which will thus act as the central laboratory.

In the case of tetanus, four methods are at present used to describe the potency of an antitetanic toxin, and the exact relation between the units has not been determined. The committee considers that it is desirable and possible to establish a common measure by an agreement on a single standard antitoxin, using the principle adopted in the case of antidiphtheritic serum. In the first instance the participating laboratories must fix experimentally the relations between the four units at present used. With this object, an exchange of serums will be made for the necessary comparative experiments. The results will be sent to the Danish state serum institute and discussed at a subsequent conference.

Subcommittee for Antimeningococcus and Antipneumococcus Serum (chairman, Dr. Dopter of the Institut Pasteur, Paris): In order to obtain full information regarding the various types of meningococci, the several laboratories agree to exchange agglutinating serums and strains of meningococci, the latter to be obtained exclusively from the cerebrospinal fluid of meningitis cases. Macroscopic methods will be used in agglutinating investigations, the bacterial emulsions having been kept for twenty-four hours at a temperature of 37 C., without prejudice to other methods which may also be employed. It appears to be difficult to determine the therapeutic value of antimeningococcus serum by measurement of agglutinins, sensitizers and opsonins. Fresh experiments will be undertaken in the various laboratories regarding the value to be attached to the determination of antiendotoxic and bactericidal power.

For antipneumococcus serum, the following conclusions were unanimously arrived at: (1) Mutual exchange of cultures of different strains of pneumococci will be effected, as in the case of meningococci. (2) Agglutination is of no value in determining therapeutic power. The best method of titrating the serum is measurement of the bactericidal power in animals, preferably mice. (3) New investigations will be carried out with regard to the best method of inoculation—peritoneal or subcutaneous—for titration of serum; the selection of methods, preventive or simultaneous, for the injection of serums and cultures, and the monovalence or polyvalence of the different serums.

Subcommittee on Dysentery Serum (chairman, Professor Kolle, director of the Institute of Experimental Pathology, Frankfort): The different institutes should exchange serums and toxins, and further experiments should be carried out, using different methods of titration and different species of animals. In testing the potency of serums, antitoxin, especially antiendotoxin, should be estimated, which could be carried out equally well with dead bacilli as with toxin. In testing dysentery serum on mice, a series of tests should be carried out with the standard serum, which the Frankfort institute would supply, and a report would be presented at the next conference. In preparing experimental anti-Shiga serum, the horse should be inoculated only with the Shiga bacillus.

Subcommittee on the Serodiagnosis of Syphilis (chairman, Professor Bulloch of the London Hospital): In a certain number of institutes, the Wassermann reaction as practiced in them should be compared with the methods of Sachs-Georgi, Meinicke and Dreyer-Ward. The number examined in each institute should be 1,000 cases of undoubted syphilis and 1,000 in which syphilis could be excluded as far as possible. The worker should be allowed to study the respective authors' own methods in the respective institutes. All reports should include information as to reliability of method, complexity of technic, relative consumption of time, expense, ease and accuracy with which the reaction can be observed, percentage of dubious results, and how far the results are quantitative.

It is understood that the conference will meet again in six months, probably at the Institut Pasteur, Paris.

The Fellowship of Medicine and Post-Graduate Medical Association

The annual report of the Fellowship of Medicine and Post-Graduate Medical Association shows that 305 graduate medical students have availed themselves of the various courses, as compared with 365 in the previous year. That the fellowship is widely known, and that there exists a demand for graduate clinical study in London is shown by an analysis of those who have taken out tickets: Australia, 16; New Zealand, 8; Canada, 58; South Africa, 13; Royal Navy, 8; Royal Army Medical Corps, 10; Indian Medical Service, 15; Colonial Service, 6; India, 27; Egypt, 7; United States, 30; South America, 3; Czechoslovakia, 1; Denmark, 1; Holland, 6; Italy, 1; Japan, 1; Philippines, 3; Siam, 1; Spain, 1; Switzerland, 3; British Isles, 86. The decrease in the number enrolled this year is probably due to the increased cost and difficulty of traveling, and also to the fact that Berlin and Vienna are again taking their places as centers of graduate medical teaching. Quite a number of physicians from this country and from the United States have gone to these cities. This has been facilitated by the depreciation in the currency of Germany and Austria. It is satisfactory that the number of graduate students from Canada and South Africa has increased. A series of general and special courses has been arranged at most of the special, and at two or three of the general hospitals. The first of these, a six weeks' course in general medicine, will begin, January 9. A special fee will be charged for the course, and the number attending it will be limited to twenty. A course in general surgery will follow in February. It is suggested that three or four other such courses will be arranged during the year, as well as short courses on special subjects.

V. 192

PARIS

(From Our Regular Correspondent)

Dec. 23, 1921.

Inauguration of Therapeutic Surgical Clinic

December 17, the president of the republic inaugurated the new surgical clinic established by the Paris faculty of medicine in the vast halls formerly occupied by the Collège des Jésuites, rue de Vaugirard. During the war, these buildings were occupied by the Brazilian Hospital. At the close of hostilities, when the Brazilian surgeons returned home, the Brazilian government generously presented to the Paris faculty of medicine the entire equipment of this hospital, valued at 2,000,000 francs, no inconsiderable sum; but many changes and adjustments were necessary in order to convert this war hospital into a clinic provided with all modern equipment such as is needed for instruction purposes. In 1920, the chamber of deputies voted the necessary funds, and the work was actively begun. The installation of technical apparatus was carried out under the direction of Prof. Pierre Duval, the incumbent of the new chair of clinical therapeutic surgery, which has replaced the former chair of "operations and apparatus," in which the instruction in operative technic was purely theoretical and no longer squared with modern demands. The feature that deserves special emphasis in the equipment of the new clinic is the importance given to the roentgenographic, biologic and chemical laboratories, all of which are in the hands of specialists of incontestable ability.

In recognition of the gift of the Brazilian government, the new clinic bears on its front the inscription: Fondation Francobrésilienne. The Brazilian ambassador, M. da Cunha, was present at the inauguration ceremony and accepted the thanks of the president of the republic for the generous gift of the Brazilian government.

The extensive buildings in Vaugirard Street will constitute a veritable annex of the faculty of medicine, and will contain, in addition to the surgical clinic, a hygienic institute, a biologic institute, a medical clinic and a clinic for contagious diseases.

Physicians and the War

During the discussion, in the chamber of deputies, on the pension law, a deputy stated that physicians had profited greatly by their experiences during the war and that most of them had derived considerable advantage therefrom in connection with their general practice. Professor Pinard immediately uttered a protest against this charge. After showing that physicians as a class had done their full duty toward their country, he added that the profits derived by physicians from the war, if not actually nil, were at least not worth considering. In an article published in the *Journal des praticiens*, Dr. G. Lemière reverts to this subject and analyzes it judiciously. He says that it is no doubt true that the practice of medicine in the army, not so much among the fighting forces and the formations at the extreme front, but more in the hospitals located on the line of communications, gave an opportunity to those who are specializing in surgery to learn many important lessons, and the practice in hospitals was extremely fruitful for all specialists. But for the vast majority of practitioners, for all those who give general treatment or confine their surgical practice to emergency cases, doing an occasional amputation, but who are not likely to see, during their whole life, a case of gas gangrene, and who would not undertake a trephination or a laparotomy without calling in a confrère who makes a specialty of surgery, for such, the war has not brought much in the way of instruction. They have often witnessed great epidemic outbreaks, have suddenly found themselves called on to treat thousands of typhoid, dysentery and influenza patients. They cared for these as best they could, with great devotion. They used the remedies and the means at their command and not always what they would have liked to employ. Sometimes it happened—a very fortunate situation—that a young practitioner found himself placed in a hospital, under the command of an eminent master, who, in his zeal and interest, was able to find time to give a few lessons still, which aided the young practitioner in perfecting his knowledge of medicine.

These are some of the advantages that the physician has been able to derive from the war; but, along with these advantages, how great have been the disadvantages and the baleful consequences from which the medical world will suffer for many a day. If physicians have profited by the observations on a large number of patients, the belief should not be entertained that that is the sole criterion. It must be remembered that, on the other hand, they were deprived for four or more years of almost all contact with scientific movements. Books were scarce, often impossible to secure. Very often they were lost in the many movings about, or destroyed during the course of bombardments. Medical journals came very irregularly and often not at all. Frequently no time could be found for reading, and sometimes, it must be confessed, there was lacking the necessary courage to read. In any event, if any one was able to derive any advantage from the war, it was not the modest practitioner who practiced medicine in the provinces in 1914. On returning home, after more than four years spent in the army, he finds himself, sometimes at the age of 40 or 45, in much the same position as the young graduate who hangs out his sign the day after he receives his diploma; for, many times, his former clients have grown accustomed to the physician acting as his substitute, possibly an aged confrère who was not mobilized and who is loath to give up the post that he has been occupying during the absence of the regular physician.

American Honors for a French Professor

At a formal ceremony that took place at the embassy of the United States, the ambassador, the Hon. Myron T. Herrick, presented to Dr. Bergonié, professor of clinical electrotherapy, the Edward Longstreth medal, bestowed by the Franklin Institute (Philadelphia), for the encouragement of mechanical arts. The medal was awarded to Professor Bergonié for his method of localizing, by means of an electromagnet, fragments of metal lodged in the muscular tissues.

As the ambassador presented the medal and the diploma to Professor Bergonié, he stated that he was acting in accordance with instructions from his government, which desired thus to take part in the honors paid to Professor Bergonié by the Franklin Institute. Mr. Herrick then read a letter addressed by the institute to the secretary of state, in which the declaration was made that, owing to Professor Bergonié's labors and discoveries, the lives of many American officers and men had been saved during the war. Professor Bergonié, in accepting the medal, stated that the name of Franklin, with which it was associated, made it especially dear to him, since the work of Franklin constitutes the basis of many scientific discoveries. He added that he was also much pleased to receive the medal from the hands of Mr. Herrick, who, on so many occasions, had shown himself such a firm friend of France.

The Campaign Against Malaria in Indo-China

The governor general of Indo-China has requested the cooperation of influential citizens in the organization, as a matter of trial, of a mobile service of rural hygiene, to be located in a region judiciously selected. The present limited resources in the way of medical personnel do not permit of much more being done along this line. However, there is

one other thing that can be done, he thinks. Provisions can be made to insure an adequate distribution of quinin, even in the most remote villages of the malarial regions. For some time past, there has been in Indo-China a "state quinin" distributing center, which distributed the drug either gratuitously or at a reduced price. The governor general has decided to develop further this system of furnishing quinin below the normal price, and, with this object in view, he has entrusted the sale of the drug to the collectors of customs and internal revenue, which will obviate the necessity of organizing a new service and will insure the distribution of state quinin under favorable conditions. A recent order also requires dispensers of alcoholics and opium to keep on hand a stock of state quinin and to sell it at definitely established prices which allow them a small margin. The indigent will be given coupons entitling them to receive quinin free of charge at any place where alcoholics are sold.

A Film on Milk Production

The Ligue du lait, of which Professor Pinard, a Paris deputy, is president, recently exhibited in a Paris public school a motion picture procured from the United States, the purpose of which was to interest the French public in the various operations through which milk passes, from the time it is drawn from the cow until it is consumed, whereby its absolute purity is assured.

Election of Officers of the Academy of Medicine

At a recent meeting, the Academy of Medicine took up the election of new officers for 1922. Professor Béhal, the vice president for 1921, succeeded, in accordance with the provisions of the constitution, to the presidency. Dr. Chauffard, professor of clinical medicine in the University of Paris, was elected vice president (president for 1923). Dr. Souques was reelected annual secretary.

BELGIUM

(From Our Regular Correspondent)

Dec. 31, 1921.

A National League to Combat Venereal Disease

Following the precedent of the Ligue nationale de la tuberculose, a Ligue nationale contre le péril vénérien has recently been formed in Belgium. In fact, it seems to be characteristic of our times for movements displaying remarkable initiative to spring up on every hand. However, two things seem to be lacking which are indispensable conditions for success in any prophylactic campaign; namely, a realization on the part of the public of the nature of the evil and the means of protecting itself against it, and the dispensaries requisite to combat the scourge. The task that the league has set for itself is to spread broadcast a vast fund of information on the subject, which constitutes the basis of all prophylaxis, and to seek to create in the public mind a sanitary conscience, as it were, with reference to venereal disease. The affairs of the league will be directed by a superior council, aided by an executive committee and local committees, and will be composed of three sections, each having its own special work to perform. 1. A medical section will have the task of accomplishing, as far as possible, the sterilization of bacteria carriers, thus completing the work begun by the government. It will make a special endeavor to increase the number of dispensaries in the country. 2. A section on moral propaganda will have the duty of spreading, throughout all classes of society, a knowledge of venereal disease and of the means of protecting oneself against it. The campaign will take the form of lectures, tracts, posters and intensified and long-continued propaganda in the daily press. 3. A section on social aid will occupy itself with the relief of minors, aid for pregnant women with venereal disease, and the creation of nurseries for infants suffering from hereditary syphilis. The Ligue contre la tuberculose; the Oeuvre de la protection de l'enfance, which we spoke of in a previous letter, and the Ligue contre le péril vénérien will form the nucleus of a vast movement in social hygiene and social welfare which will be directed against the great evils that threaten to disrupt our civilization.

Hemorrhagic Pancreatitis

At a recent meeting of the Belgian surgical society, de Beule submitted a communication on eight cases of acute hemorrhagic pancreatitis. He recalled the pathogenesis of this affection as due, in the majority of cases, to the reflux of enterokinase into Wirsung's canal, occasioning the activation of protrypsin and the autodigestion of the pancreas. In five of these cases, cholelithiasis was present, which, by distending Vater's ampulla through excessive dilatation of Wilson's muscle, favors the intestinal reflux. Bacterial origin (influenza, mumps) and blood origin (infarct) are of rarer occurrence. Diagnosis in the superacute cases seems impossible. In the four instances in which de Beule operated in extremely urgent cases, all that could be positively affirmed was a severe peritoneal shock having its seat in the upper abdomen, which, however, was sufficient by way of diagnosis to point to an immediate laparotomy. The tentative diagnoses reached by de Beule in his four cases were: perforated gastric ulcer, insufficiency of a gastro-enterostomy suture, torsion of the mesentery and gangrene of the appendix, respectively. De Beule effected two cures in the four cases. Treatment should consist in the débridement of the pancreas, and drainage. The definite diagnosis becomes established after laparotomy by the existence of so-called "taches de bougie" (candle drippings) and retroperitoneal hematoma. In the subacute cases, evolving in from four to six weeks and ending in pancreatic abscess, de Beule points out two important factors of value in establishing a definite diagnosis, which are: radiating pains in the left lumbar region and symptoms of partial obstruction of the transverse colon. In such cases he had three recoveries in four cases in which operation was performed.

The Milk Question

In all western Europe, the milk question has become a pressing problem. All the large cities are already obliged or soon will be compelled to regulate the sale of the limited supply, so that this scarce and valuable product may be reserved for the use of those who need it most. It will be readily understood that under the present conditions much adulteration is practiced. Various medical societies have felt it incumbent on them to tackle the problem. Speaking before the Brussels Royal Society of Medical and Natural Sciences, Monsieur Wauters called attention to the dangers incurred by the general public on account of the present legislation with regard to the sale of milk. As is well known, the watering of milk, being considered an adulteration, is always subject to punishment. However, the decisions of the courts vary greatly in regard to the skimming of milk, most judges holding that the removal of a certain part of the milk does not constitute an adulteration. The well known decision of the appellate court of Liége confirms this finding. Nevertheless, it is absolutely certain that the addition to milk of 10 per cent. of pure water lessens its nutritive value less than the removal of all (or even a considerable portion) of the cream. Besides the question of principle, the courts invoke also the fact that the sale of milk from which a certain proportion of the cream has been removed is regulated by a royal order which fixes the minimal percentage of butter fat at 2.8 per cent. Monsieur Wauters points out that the royal order which requires milk dealers to put on their cans various labels giving the buyer the needed information in regard to the removal of cream

was a matter of necessity, since it is indispensable that some cream be removed for the manufacture of butter. But the sale of skimmed milk without notification of the fact that it is skimmed constitutes a theft and should therefore be regarded as adulteration. The term "adulterated" should be applied to any and all modifications of any article of food offered for sale without the buyer's being informed as to the nature of the modification that the article has undergone. To adulterate signifies, in other words, "to alter with an intent to deceive," and an alteration may be either an addition or a subtraction. Further, Monsieur Wauters referred to the deplorable results arising from the establishing of a minimal butter-fat content. All the large milk establishments that have the means of testing the percentage of butter fat skim their milk down to the minimum (2.8 per cent.). Since the content in butter fat varies greatly with the season, the character of the feed and the time of milking, the application of these regulations is difficult to carry out. Wauters holds that the best remedy against the adulteration of milk would be the establishment of a greater number of intercommunal creameries, which would be more solicitous than privately conducted plants in their endeavors to furnish their customers with a milk as pure and as rich as possible. Since the milk problem is of such paramount importance for infants, children and patients, he proposed that the society should pass a resolution on the subject, to be presented to the public authorities.

A Memorial to Léon Stiénon

A group of friends, colleagues and pupils of Prof. Léon Stiénon recently rendered him the tribute of homage of countless admirers on the occasion of the close of his professional career. The modesty of the professor had led him formally to refuse the official demonstration that his pupils had planned. The committee presented the professor with a medallion likeness of himself, executed by the sculptor Bonnetain. All the subscribers to the fund will receive a miniature copy. Stiénon's whole career was in connection with the University of Brussels. He was, in turn, professor of histology and pharmacognosy, and, finally, he was appointed to the chair of pathologic anatomy, which he held until last year. He was also director of the medical clinic.

BUDAPEST

(From Our Regular Correspondent)

Dec. 30, 1921.

Improvement in the Tuberculosis Death Rate

The untiring efforts of the numerous societies founded for the purpose of stamping out tuberculosis in Hungary have already been rewarded by a steady fall in the annual number of deaths caused by that disease. The official returns for the year 1920 prove that out of 10,000 inhabitants, forty-five died of tuberculosis, while the mortality for the six years before the war was: 1908, 37.6 per 10,000; 1909, 37.1; 1910, 36; 1911, 35.1; 1912, 33.7; 1913, 31.4. It is true that the average death rate from tuberculosis in Germany is only 16.8 per 10,000 inhabitants, but according to Fay, the director of the statistical bureau, if the deaths from all the other diseases of the respiratory organs are included, the total German death rate is in reality no lower than that of Hungary. Another proof of the excellent work accomplished by these societies may be seen in the fact that the Hungarian regiments suffer less from tuberculosis than any other corps of the little entente states.

Epidemic of Acute Poliomyelitis

An outbreak of poliomyelitis has been rife in Hungary for the last eight or nine months, and has already claimed many victims among the children of the country. In the majority of cases the disease is very acute, and there is almost always more than one convulsion. It is believed to have been brought across the frontier from the Balkan States, where a similar epidemic was raging some time ago; but although every precaution has been taken to prevent its spread, up to the present they have been of no avail. The director of the Stefania Children's Hospital, Professor Bokay, has therefore petitioned the minister of public hygiene to order the notification of every case to the local district medical officer, and to empower physicians to remove patients to the hospital if they cannot be properly isolated in their own homes. This request has been granted, and the district medical officers, moreover, have been ordered to send in a monthly report on the progress of the epidemic in their respective districts.

Graduate Medical Study in Hungary

The Central Committee of Medical Post-Graduate Study held its annual meeting, Sunday, December 4. Graduate medical study has developed into a powerful organization from a very modest origin, notwithstanding the shorn territory of the country. In the last year the Budapest courses were attended by 147 physicians and the provincial courses by seventy-nine, making a total of 226. Sixty-eight of these courses have enjoyed state support. The committee has distributed 3,000 volumes of medical science, and the municipalities 4,500 volumes. Also money has been distributed among village practitioners to aid them to attend these graduate studies. The ministry of public instruction covers all the expenses involved by the administration and lecturers' fees. In the program for 1922, which will be put together later on, certain new types of courses will be introduced. Besides the four weeks' courses, which serve for more thorough study of a single subject, one-week courses will be held on syphilology, industrial accidents, and modern therapeutics. The chairman of the committee expressed hopes that this year the number attending would be doubled.

The Spread of Insanity in Hungary

A startling statement was recently made by Dr. Koloman, a senior physician to the state asylum at Lipotmezo. Dr. Koloman, who has made a careful study of the life histories of the 12,000 patients admitted to the asylum during the last forty years, has come to the conclusion that 53 per cent. of the cases of insanity among professional men were avoidable. Every one of these patients, he tells us, died of paralysis, 29 per cent. being physicians under 36 years of age. As regards physicians over 36, the percentage of deaths from paralysis amounted to 77, while among lawyers who had passed the same age it rose to 89. Out of fifty-three members of the latter profession, ranging from 40 to 60 years of age, fifty-one succumbed to paralysis, and eleven actors admitted to the asylum during the period in question all suffered from the same disease. As regards the prevalence of paralysis in other professions, the army was represented by a fairly large proportion: 94 per cent. of military officers over 26 years of age, and the church by 82 per cent. of Protestant and 42 per cent. of Catholic clergymen. The lowest proportion seems to be found among Jewish school teachers, there being only 6 per cent. under and 40 per cent. over 26 years of age in the total number of cases. On the other hand, the proportion of paralysis among the total number of mental diseases in Jewish merchants over 36 rises to 93 per cent., while in agricultural laborers it is only 25 per cent., and in railway and navigation men 71 per cent., therefore affording conclusive evidence that it is moral conduct, not circumcision, that protects the Jew from syphilis. The connection between paralysis and immorality is clearly proved by the data afforded by the histories of female paralytics, the proportion of paralysis among women between the ages of 16

and 30 being only 2 per cent., while in prostitutes of the same age it rises to 30 per cent., and among women between the ages of 31 and 36, 8 per cent., as compared with the 60 per cent. among their less fortunate sisters. It is surely a significant fact, moreover, that no one has yet seen a paralytic nun. These figures, in Dr. Koloman's opinion, prove that paralysis undoubtedly depends largely on the previous presence of syphilis. There seems every reason to believe, therefore, that only a man suffering from the latter is likely to be smitten by the former, and that he who is free from the one is likely to escape the other. Alcoholism ranks next to syphilis as an etiologic factor of paralysis, and unfortunately, this cause is almost as frequent among the educated as among the uneducated classes. This is proved by the fact that only 9 per cent. of nonparalytics among the physicians owe their mental disease to alcohol, 41 per cent. of the judges, 21 per cent. of the military officers and post officials, and 32 per cent. of the railway employees have been reduced to their present condition by a reckless indulgence in intoxicants. On the other hand, not one of the thirty-three Jewish school teachers suffered from alcoholic mental disease, a fact which also proves that epilepsy is relatively uncommon among Jews. These figures, compiled from observations during forty years, convey an important moral. It is Dr. Koloman's deliberate opinion that all these unfortunate persons could, humanly speaking, have been saved from their disease if in early youth they had learned to resist temptations to drunkenness and immorality. In this respect Hungary compares very badly with such a country as Sweden, for example. While only 1 per cent. of the inmates of the Swedish state asylums are paralytics, the Hungarian establishments contain as many as 18 per cent. suffering from this disease, and, moreover, many of the patients are physicians, lawyers and other professional men who, instead of being an object of expense to the state, ought to be capable of working for twenty or thirty years for their own and the public welfare.

New Rules Regulating the Sale of "Patent Medicines"

Up to now, the importation of foreign medicines, and also nostrums into Hungary was allowed in any quantity, regardless of the content of these articles. Lately, the influx of these undesirable materials has attained such proportions that the public, learning the action of these preparations from the advertisements in the lay papers, have bought nostrums in case of illness instead of, first, getting medical advice. The chief medical officer of the city of Budapest, seeing the harmful consequence of this procedure to public sanitation, sent a memorandum to the postoffice, asking the authorities to stop the delivery of articles that are not enumerated in the list compiled by himself. In this list, there are only nostrums which do not contain poisons (such as morphin, mercuric chlorid and strychnin) and which are not supplied with labels giving indications as to their use. When the chief medical officer had made this arrangement with the postal authorities, complaint was made by the pharmaceutic board that the pharmacists had lost more than half of their usual income in consequence of the great influx of foreign nostrums. Nominally, according to the rules of the profiteering act, pharmacists are not allowed to gain more than 20 per cent. on "ready medicaments," including nostrums; whereas, if a medical prescription is brought to them, they are allowed to charge liberal fees, so that the preparing of a prescription brings them more profit than the sale of four or five packages of nostrums. Since, however, the number of prescriptions have recently been greatly reduced on account of the demand for nostrums, the incomes of pharmacists have been lessened considerably. The checking of distribution of "patent medicines" will become a radical remedy against this abuse.

Marriages

ALBERT GROVES HULETT, East Orange, N. J., to Miss Frances Elizabeth McQuilkin of Orange, N. J., December 19.

LISLE BENJAMIN ROBINSON, Atlanta, Ga., to Miss Effie May Buchanan of Nashville, Tenn., December 28.

LAWRENCE RICHARDSON WHARTON to Miss Louise Wallace Hazelhurst, both of Baltimore, January 10.

HOMER PERSEIUS HARRIS to Miss Margaret R. Wilkinson, both of Montgomery, Ala., December 10.

HUBBARD PRATHER SAUNDERS, Hickman, Ky., to Miss Aileen Rooney of New York City, November 7.

THOMAS ROSCOE ROBERTS to Miss Thelma Louise Daugherty, both of Catoosa, Okla., December 20.

LABASSE JOSEPH ROBIN to Miss Lydia de los Reges, both of New Orleans, December 7.

WALTER FELIS MCCROCKLIN, Louisville, Ky., to Miss Alberta Mae Haller, November 19.

WILLIAM ALBERTUS COVENTRY, Duluth, Minn., to Miss Anna Segerman, December 3.

Deaths

John Orne Green, Boston; Medical School of Harvard University, Boston, 1866; died, January 5, aged 80. Dr. Green was born at Lowell, Mass., June 7, 1841; received his A.B. from Harvard University, 1863; he studied aural surgery in Berlin, Vienna and Würtzburg; lecturer, 1869-1870; instructor, clinical otology, 1875-1878; professor of otology, 1888-1904, at his alma mater; formerly aural surgeon at the Boston City Hospital, the Massachusetts Charitable Eye and Ear Infirmary and the Massachusetts General Hospital, Boston; member of the Massachusetts Medical Society, and president of the American Otological Society, 1908.

Robert Henry Howard, Tuskegee, Ala.; University of Alabama School of Medicine, Mobile, 1911; member of the Medical Association of the State of Alabama; specialized in neurology; formerly served at the Searcy Hospital for the Insane, Mount Vernon, and the Bryce Hospital for the Insane, Tuscaloosa; served during the war as neurologist, U. S. Army; since his discharge, medical examiner for the U. S. Veterans' Bureau; secretary and treasurer of the Macon County Medical Society; died, Dec. 27, 1921, from heart disease, aged 39.

Frederick H. Little ● Muscatine, Iowa; State University of Iowa College of Medicine, Iowa City, 1879; for many years member of the board of health; at one time lecturer in anatomy and physiology, also president and chief surgeon of the Benjamin Hershey Memorial Hospital; former president of the board of education; during the World War he served as president of the exemption board; died, January 11, from cerebral hemorrhage.

Kingman P. Moore, Macon, Ga.; Atlanta Medical College, Atlanta, Ga., 1868; member of the Medical Association of Georgia; and formerly served as president, vice president and secretary of the association; Confederate veteran; former professor of anatomy, physiology and hygiene, Mercer University, Macon; at one time on the board of the Macon Hospital; died, January 8, at Pompano, Fla., aged 77.

Frederick Layman Bunch, Muncie, Ind.; Bennett College of Eclectic Medicine and Surgery, Chicago, 1907; member of the Indiana State Medical Association; formerly surgeon in the army hospital at San Jose, Mexico; served during the World War, with the rank of captain, at Hospital No. 91, Commercy, France; at one time police commissioner of Muncie; died, January 10, from tumor of the stomach, aged 35.

Walter Hoare Moorhouse, London, Ontario, Canada; Trinity Medical College, Toronto, 1874; dean of the Western University Faculty of Medicine, London, for seventeen years, and, for eight years, vice chancellor of the university; former president of the Canadian Medical Association, the Ontario Medical Association and the London Medical Association; died, Oct. 24, 1921, aged 78.

● Indicates "Fellow" of the American Medical Association.

Joseph Macdonald, Jr. ● East Orange, N. J.; Baltimore University School of Medicine, 1904; formerly president of the U. S. Army Medical Examining Board of New Jersey; during the World War served as major, M. C., U. S. Army; managing editor of the *American Journal of Surgery;* died, January 7, from cerebral hemorrhage, aged 51.

Edward Vincent Kennedy ● Brooklyn; Long Island College Hospital, Brooklyn, 1919; formerly on the staff of St. Mary's Hospital, St. Catherine's Hospital and St. Joseph's Orphan Asylum, Brooklyn; died, January 10, following an operation for appendicitis, at St. Luke's Hospital, Newburgh, N. Y., aged 29.

John Park, Edmonton, Alta., Canada; Trinity Medical College, Toronto, Canada, 1884; registrar-treasurer of the College of Physicians and Surgeons of the Province of Alberta; died, December 24, 1921, from malignant endocarditis with embolism, at the General Hospital, aged 70.

John Andrew French, St. Joseph, Mo.; St. Joseph Hospital Medical College, 1880; also a druggist; founder and physician in charge of the St. Joseph School and Hospital for Training Nurses; died, January 3, from cerebral hemorrhage, aged 68.

James Warner Groom, Greene, Iowa; Drake University College of Medicine, Des Moines, Iowa, 1911; member of the Iowa State Medical Society; died suddenly, January 6, in his office while attending a patient, from heart disease, aged 39.

John Herman Warren Meyer, Lieut., M. C., U. S. Naval Reserve Force, Naval Recruiting Station, Denver; Rush Medical College, Chicago, 1907; died, Dec. 21, 1921, from pneumonia, aged 38.

Reunette Emmogene Hughes Boone, Santa Rosa, Calif.; Syracuse University College of Medicine, Syracuse, N. Y., 1881; died, Dec. 10, 1921, following an operation for abscess of the appendix, aged 76.

Anson Warren Penniman, Berkeley, Calif.; University of Vermont, Burlington, 1889; Bellevue Hospital Medical College, New York City, 1890; died, Dec. 15, 1921, from angina pectoris, aged 63.

Julia T. Hill Crawford ● Denver; Hahnemann Medical College and Hospital of Chicago, 1884; Woman's Medical College of Baltimore, 1886; died, Dec. 21, 1921, at Los Angeles, aged 60.

William Wilkerson, Memphis, Tenn.; Jefferson Medical College, Philadelphia, 1855; Confederate veteran; also a druggist; died, Nov. 5, 1921, from injuries received in a fall, aged 93.

Lewis Adisan Fisher, Byers, Kan.; Medical Department of Butler University, Indianapolis, 1881; member of the Kansas Medical Society; died recently in a hospital at Sterling, aged 64.

Joseph Birkbeck Burroughs, Mount Hope, N. Y.; Syracuse (N. Y.) University College of Medicine, 1881; also an explorer; author of several books; died, Dec. 25, 1921, aged 67.

Semler Hoss ● Muskogee, Okla.; Southwestern University Medical College, Dallas, Texas, 1905; specializing in pediatrics; died, December 29, from pneumonia, aged 39.

Joseph Lipman, New York City; Long Island College Hospital, Brooklyn, 1901; member of the Medical Society of the State of New York; died, Dec. 18, 1921, aged 48.

Newton Robinson, Elizabethtown, N. C.; Philadelphia University of Medicine and Surgery, Philadelphia, 1869; Confederate veteran; died, December 20, aged 74.

Walter M. Pritchett, Glasgow, Mo.; Vanderbilt University, Nashville, Tenn., 1883; member of the Tennessee State Medical Association; died, December 18, aged 61.

Harry Hale Ford ● Elmira, N. Y.; Medical School of Maine, Brunswick and Portland, Me., 1884; died, December 25, from cerebral hemorrhage, aged 59.

Ernest P. Ham ● Gainesville, Ga.; Tulane University of Louisiana, New Orleans, 1888; died suddenly in bed, December 24, from heart disease, aged 58.

Louis P. Hinn ● Fond du Lac, Wis.; Hahnemann Medical College and Hospital of Chicago, 1885; died, December 31, from cerebral hemorrhage, aged 64.

Martin Wright Bacon, Chicago; University of Michigan, Ann Arbor, 1875; one of the founders of the Englewood Hospital, Chicago; died, January 14.

William Edward Grigsby, Burlington, Iowa.; College of Physicians and Surgeons, Keokuk, Iowa, 1893; died, January 7, from heart disease, aged 59.

Lucullus E. Webb, St. Bethlehem, Tenn.; University of Tennessee, College of Medicine, Memphis, 1883; died, December 27, from paresis, aged 66.

Sanford R. Perkins, Delafield, Wis.; Medical College of Indiana, Indianapolis, 1883; first mayor of Wyoming, Ill.; died, December 26, aged 76.

Lucius J. Tedman, Summit City, Mich.; Hahnemann Medical College and Hospital of Chicago, 1888; died, October 31, from heart disease, aged 57.

John W. Porter, Virginia, Ill.; College of Physicians and Surgeons, Keokuk, Iowa, 1878; died, Dec. 22, 1921, from cerebral embolism, aged 67.

Edward Marshall Phelps ● Basalt, Colo.; Medical Department of the University of Cincinnati, 1896; died, Dec. 6, 1921, from endocarditis, aged 51.

Marcus Fried, Portland, Ore.; Medical Department of Columbia College, New York City, 1890; died, December 14, in Los Angeles, aged 62.

John J. Stoner, Grand Rapids, Mich.; Hahnemann Medical College and Hospital of Chicago, 1880; also a druggist; died, December 23, aged 74.

Carlton Theodore Bacon, La Grande, Ore.; Rush Medical College, Chicago, 1883; president of the state board of health; died recently, aged 64.

James H. McDaniel, Carthage, Texas; University of Louisville, Louisville, Ky., 1870; died, December 18, from cerebral hemorrhage, aged 83.

Marshall H. Keyt, Berkeley, Calif.; Medical College of Ohio, Cincinnati, 1884; died, December 19, from angina pectoris, aged 60.

George Owings Graves, Winchester, Ky.; University of Pennsylvania, Philadelphia, 1851; died, December 26, from senility, aged 93.

John M. Miller, Dayton, Wash.; California Eclectic Medical College, Los Angeles, 1889; died in December, from paresis, aged 59.

Charles Alva McClure, Eminence, Ind.; University of Nashville, Tenn., 1859; died suddenly, Dec. 28, 1921, from heart disease, aged 62.

William Wesley Wolfe, Pittsburgh; Homeopathic Hospital College, Cleveland, 1880; died, December 28, at Rochester, Minn., aged 70.

Milton Van Pelt, Cincinnati; Medical College of Ohio, Cincinnati, 1889; died, December 24, from cerebral hemorrhage, aged 64.

Louise Florence Chamberlayne, Rochester, N. Y.; Boston University School of Medicine, 1878; died, November 28, aged 76.

Amanuel B. Mayfield, Salina, Kan.; St. Louis College of Physicians and Surgeons, St. Louis, 1886; died, November 9, aged 67.

Clarence H. Scoville, New Canaan, Conn.; Baltimore Medical College, 1892; died recently from chronic nephritis, aged 70.

J. Furnam Clinkscales, St. Louis; Atlanta College of Physicians and Surgeons, Atlanta, Ga., 1913; died, Dec. 16, 1921, aged 38.

Samuel Henry Honn, Metcalf, Ill. (license, Illinois, 1878); also a druggist; died, January 1, after a long illness, aged 68.

Arthur O. Wright, San Diego, Calif.; Rush Medical College, Chicago, 1890; also a pharmacist; died, Dec. 31, aged 74.

Foster G. Richardson, Heber Springs, Ark.; University of Louisville, Louisville, Ky., 1897; died, November 23, aged 52.

James M. Jamison, Topeka, Kan.; Meharry Medical College, Nashville, Tenn., 1877; died, December 30, aged 70.

Milton H. Cravens, Arlington, Texas; Kentucky School of Medicine, Louisville, 1883; died, Dec. 31, 1921, aged 62.

George Washington Mangus, Red Creek, N. Y.; Columbus Medical College, Columbus, Ohio, 1888; died recently.

E. D. Mann, Saxapahaw, N. C. (license, North Carolina, years of practice); died, November 21, aged 82.

Delmar S. Hamilton ● Greybull, Wyo.; Hering Medical College, Chicago, 1895; died recently, aged 52.

William E. Bone, Brookland, Ark. (license, Arkansas, 1903); died, Nov. 29, 1921, aged 52.

B. H. Green ● Warren, Ark. (license, Arkansas, 1903); died, December 19, aged 64.

The Propaganda for Reform

In This Department Appear Reports of The Journal's Bureau of Investigation, of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other General Material of an Informative Nature

WESTERN MEDICAL ASSOCIATION

Another Phenobarbital (Luminal) Mail-Order Treatment for Epilepsy

The "Western Medical Association" is selling a secret mixture on the mail-order plan for the alleged cure of epilepsy. Not that the concern crudely says it will "cure" epilepsy but that is what the average epileptic will infer who receives the advertising matter from the Western Medical Association:

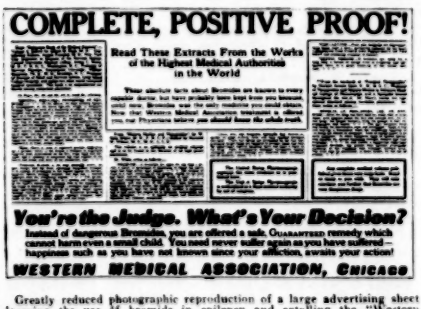
"Your Fits can be stopped—STOPPED FOR THE REST OF YOUR WHOLE LIFE!"

"You may work or play just as though you had never suffered from an attack in your whole life."

"It WILL STOP YOUR FITS! Our Physicians stake their very reputations upon this greatest of all treatments!"

Had they actually used the much overworked, and somewhat legally dangerous, word "cure" they could not have conveyed to the average layman anything stronger. When the Western Medical Association was first called to the attention of the Propaganda Department it was advertising from 902 E. 55th St., Chicago. A visit to this address failed to disclose any concern of this name in the vicinity. There was, however, a physician—a reputable member of the profession—who had an office at this address and who was pestered by receiving mail addressed to the Western Medical Association. Further investigation indicated that a newspaper and magazine store immediately below the office of the physician in question was acting as the go-between for the self-styled Western Medical Association. Protests were made to the postal authorities and shortly thereafter the nostrum concern changed its address to another in the same locality.

Investigation seems to show that there are two men mainly concerned in operating the Western Medical Association, one Joseph B. Creevy and the other Dr. W. W. Lister. Creevy, it is said, had previously been connected with one of the smaller mail-order houses in Chicago. Lister is a physician.


COMPLETE, POSITIVE PROOF!

Read These Extracts From the Works of the Highest Medical Authorities in the World

You're the Judge. What's Your Decision?

Instead of dangerous Bromides, you are offered a safe, GUARANTEED remedy which cannot harm even a small child. You need never suffer again as you have suffered—happiness such as you have not known since your affliction, awaits your action!

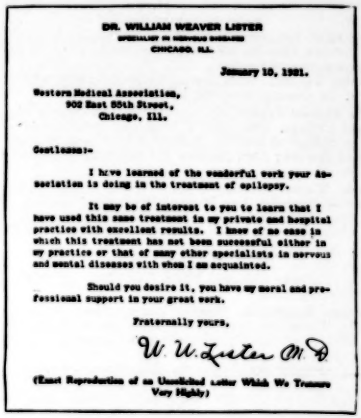
WESTERN MEDICAL ASSOCIATION, Chicago

Greatly reduced photographic reproduction of a large advertising sheet decrying the use of bromids in epilepsy and extolling the "Western Medical Association Treatment." In the original this sheet measured 11 inches by 16 inches.

Epileptics are sent a circular letter from which a few of the sentences have already been quoted. In describing the alleged treatment this letter says:

"UNTIL NOW, you have had no opportunity to obtain this wonderful medicine because, for the past eight years, it has been prescribed, almost exclusively, by world-renowned Specialists who command enormous fees. You, and thousands of others so afflicted, have had no chance to consult these Specialists. For that reason, this Association of prominent Physicians has been formed to provide all sufferers, outside of Chicago, with this very medicine prescribed by them in their private practice."

In addition to the letter there is a large advertising sheet setting forth the alleged virtues of the "Western Medical Association Treatment" as compared with the "Old Treatment" by bromids. There is also a so-called Guarantee Bond which is reproduced in miniature with this article. The concern guarantees that the "treatment" will "Stop Completely All Epilepsy Attacks—Fits" or it will return the money if after thirty days' use "the patient does not obtain the benefits set forth."


DR. WILLIAM WEAVER LISTER
SPECIALIST IN NERVOUS DISEASES
CHICAGO, U.S.A.

January 10, 1921.

Western Medical Association,
902 East 55th Street,
Chicago, Ill.

Gentlemen:-

I have learned of the wonderful work your Association is doing in the treatment of epilepsy.

It may be of interest to you to learn that I have used this same treatment in my private and hospital practice with excellent results. I know of no case in which this treatment has not been successful either in my practice or that of many other specialists in nervous and mental diseases with whom I am acquainted.

Should you desire it, you have my moral and professional support in your great work.

Fraternally yours,

W. W. Lister M.D.

(Exact Reproduction of an Unsolicited Letter Which We Treasure Very Highly)

Photographic reproduction (reduced) of the "unsolicited letter" of William Weaver Lister. It appears that Lister is one of the owners of the concern to which he offers his "moral and professional support."

Another piece of advertising that the prospective purchaser receives purports to be a facsimile letter on the professional stationery of Dr. William Weaver Lister. This also we reproduce in miniature. Note that at the bottom of this letter is a statement that it is an "Exact Reproduction of an Unsolicited Letter Which We Treasure Very Highly." This is especially interesting when one calls to mind that William Weaver Lister, the author of this "unsolicited letter," is apparently part and parcel of the concern that sends it out!

The Journal has received many inquiries regarding the Western Medical Association and its treatment, some of them coming from the medical superintendents of state institutions for epileptics. One of these physicians wrote to the Western Medical Association and asked for information regarding the composition of this "treatment" and also asked for the names and addresses of some physicians who had used it. In reply he received a letter (reproduced with this article) from the "Association's Secretary" stating that "we do not wish to disclose the composition of our treatment for epilepsy." As to giving the names and addresses of physicians: "The identity of these physicians is not made public. The reason for this is, as you well know, the fact that their connection with this Association might be considered unethical by the medical societies of which they are members." It might! Moreover, if the general public were to learn that the "Unsolicited Letter" of William Weaver Lister, which the Western Medical Association uses in its advertising, was written by one of the owners of the business, it might impair its advertising value.

Encouraged, doubtless, by the financial success attending the selling of a mail-order treatment for epilepsy the Western Medical Association is branching out. In addition to its nostrum for epilepsy the concern also advertises "Prescription T"—"T" standing for "Tiredness"—for "revitalizing the bodily and mental vigor of weak, tired, wornout, nervous men and women." Should you be "suffering with stomach trouble and have been unable to obtain relief elsewhere" send for

the stomach cure—"Prescription S." Possibly you have "not been able to find relief elsewhere" for "Exzema and Skin Diseases," if so, by all means try "Prescription E." Or you may have something wrong with the "Kidneys and Bladder." "If these organs are ailing we advise you to see a good doctor at once or if you wish you may order the proper treatment from us." Order, of course, "Prescription K." In this connection it is worth calling attention to the statement made by the concern that "Our physicians will not treat, by mail, cases such as Cancer, Dropsy, Brights Disease, Goitre, Tuberculosis, etc." From this one assumes that the Western Medical Association considers dropsy and Bright's disease as foreign to ailments of the kidneys.

Women are appealed to by urging the "importance of regular menstration" (spelling original with the Western Medical Association). "If the flow is scant, frequently delayed or especially painful, it is not as nature intended. See your local doctor or let our physicians treat your case." Menstruation commencing with "M" one, of course, should "Order Prescription M."

Because of the number of inquiries received it seems desirable to determine the essential drugs in the "Western Medical Association Treatment" for epilepsy. It was a foregone conclusion that the essential drug was phenobarbital (luminal), as, since this drug has been found useful in the symptomatic treatment of epilepsy, those exploiting medical mail-order cures for epilepsy are using it to the exclusion of the bromid treatment. The Laboratory report follows:

CHEMICAL REPORT

"One original 'Western Medical Association Treatment' was submitted to the A. M. A. Chemical Laboratory with the request that the active constituents be determined. The 'treatment' is sold in three boxes, *'A,' 'B'* and *'C'* respectively.

"*A.*—The box contained 30 white tablets, with directions To 'take one at bedtime and one in the morning.' Each tablet weighed approximately 0.1 gm. (1½ grs.). They were found to contain phenobarbital (luminal), starch and a small amount of a substance having the microscopic characteristics of talc. The amount of phenobarbital present was 66.5 per cent., equivalent to 0.66 gm. (1 grain) phenobarbital in each tablet. Bromids were absent.

"*B.*—The box contained 60 brownish tablets, with directions to 'Take two in the morning and two at noon.' The

Guarantee Bond

We Hereby Guarantee

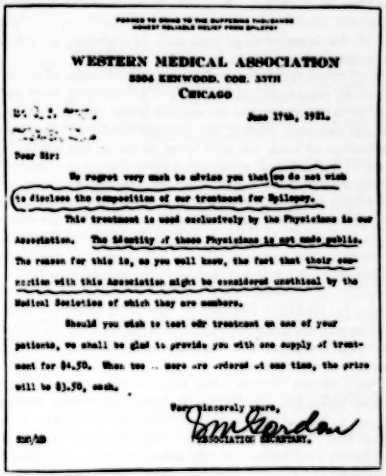
We Further Guarantee

WESTERN MEDICAL ASSOCIATION, CHICAGO

Photographic reproduction (reduced) of the "Guarantee Bond." In the original this is a gaudy affair printed in green ink on saffron-colored paper.

tablets responded to tests for calcium, magnesium (in small amount), lactate and phosphate; bromids were absent. Organic material was present. The tablets had the general appearance and taste of 'Digestive Tablets' still sold by pharmaceutical houses. Such so-called digestive tablets generally have the formula: Pepsin 1 gr., Pancreatin 1 gr., and Calcium lactophosphate 2 gr. These tablets, therefore, were tested for enzymic activity. There was noted a weak peptic activity, indicating the presence of pepsin. There was no positive reaction for pancreatin or diastase, indicating the absence of these substances at least in active form. Test for epinephrin, thyroid and alkaloids were negative. The *'B'* tablets are essentially of the digestive type which contain pepsin and calcium lactophosphate.

"*C.*—The box contained 30 yellow coated tablets, with directions to 'Take one, two or three at night as necessary to


WESTERN MEDICAL ASSOCIATION
3806 KENWOOD, COR. 37TH
CHICAGO

June 17th, 1921.

Dear Sir:

We regret very much to advise you that you do not wish to disclose the composition of our treatment for Epilepsy.

This treatment is used exclusively by the Physicians in our Association. The identity of these Physicians is not made public. The reason for this is, as you well know, the fact that their connection with this Association might be considered unethical by the Medical Societies of which they are members.

Should you wish to test our treatment on one of your patients, we shall be glad to provide you with one supply of treatment for $4.50. When two or more are ordered at one time, the price will be $3.50, each.

Very sincerely yours,

ASSOCIATION SECRETARY.

Photographic reproduction (reduced) of a letter sent to a physician who wrote to the Western Medical Association asking for information regarding the composition of the "treatment" and for the names of some of the physicians who have used it. Note the parts marked.

move bowels freely.' The tablets contain laxative drugs responding positively to tests for emodin-bearing drugs and for aloin."

Summed up then, "this wonderful medicine," which "has been prescribed almost exclusively by world-renowned Specialists who command enormous fees," is essentially phenobarbital (luminal) and a laxative.

Correspondence

"THE BASAL METABOLISM OF MAN IN THE TROPICS"

To the Editor:—Referring to the editorial comment on "The Basal Metabolism of Man in the Tropics" (THE JOURNAL, Dec. 31, 1921, p. 2124), which discredits the work of Dr. de Almeida (who found a lessened metabolic rate) and credits Eijkman's conclusions to the contrary, may I not, "without prejudice" toward either the Brazilian or the Dutch experimenter, recall attention to the observations of Julius Robert Mayer in Java, about 1840, on which, as a matter of historical fact, the physical science of the nineteenth century based its most important developments? Often, it is true, recognition of Mayer's fundamental labors has been withheld; but Tyndall has amply vindicated the claim of the Heilbronner physician to the origination of the broad conception of the conservation and transformations of energy—calling him "the seer," in contradistinction to Rumford and Joule, who were demonstrators in a limited field.

Mayer's work was based on the simple fact that, having shipped as surgeon on a Dutch vessel, he had occasion in

Java to bleed several of the sailors, and observed that their venous blood was much redder than he had found it on venesection in Germany. His reasoning may crudely be summarized thus: "Less discoloration of blood means less carbonic acid, which means less combustion, which means less need for heat. Why? Because a portion of that required is furnished directly by the sun." "The blood," he says, "is the oil of the lamp of life," and only by combustion does the body obtain power to do its work.

With this single fact—the lessened carbonization of the blood which he repeatedly confirmed—and without one other datum for his calculations than the specific latent heat of compressed air, he not only worked out mathematically the mechanical equivalent of heat, but also went on to reason out the doctrine of the universal energy that never disappears, but merely changes form—and under whatever form it manifests, must have been produced by such change from an equivalent quantity of some other form. "Ex nihilo nihil fit" is his repeated text—a commonplace to us, but, in its physical application, a startling innovation to the young doctor's contemporaries. Being without apparatus for experimental verification of his theories, he communicated his results to Liebig, that they might be published and tested. But even the great mind of Liebig was not prepared for the new outlook on the universe. He held the paper for several years before publication—it seemed so revolutionary.

But I do not wish to write either a biography of Mayer—whom physicians should know better than they commonly do—or a history of the natural sciences. I merely wish to show that there is an old and important observation from the Dutch East Indies strongly indicative of lessened oxidation of tissues in tropical climates; and that Dr. de Almeida's experiments are not to be peremptorily ruled out of court.

Solomon Solis Cohen, M.D., Philadelphia.

"A NEW METHOD OF TREATMENT FOR VARICOSE ULCERS OF THE LEG"—"ADHESIVE STRIPS FOR ANAL EXPOSURE IN SURGICAL PROCEDURES"

To the Editor:—The treatment of varicose veins of the leg by the adhesive shingle method was taught me by Dr. Joseph Hoffman, now in practice in East Norris Square, Philadelphia, over twenty-four years ago, before I entered medical college, and I have used it continually not only for varicose ulcer, but in nearly all cases in which adhesive plaster is used. Dr. McKnight (The Journal, Dec. 10, 1921, p. 1800), with Dr. Perilli, is not saying anything new. Adhesive strips were also used by Dr. Hoffman for anal exposure over twenty years ago that I know of in the same manner as suggested by Dr. de Brun (The Journal, Jan. 14, 1922, p. 111). But it is often advisable to bring old methods to the attention of younger practitioners.

R. W. Dickey, M.D., Atlantic City, N. J.

VENEREAL SPIROCHETOSIS OF RABBITS

To the Editor:—May I add a few words to complete Dr. Noguchi's article, entitled "A Note on the Venereal Spirochetosis of Rabbits" (The Journal, Dec. 24, 1921, p. 2052). Levaditi, Marie and Isaiac (*Compt. rend. Soc. de biol.*, June 11, 1921) and Levaditi, Marie and Nicolau (*Compt. rend. Acad. d. sc.*, June 13, 1921) have reported similarly to Dr. Noguchi on this disease, which they called pseudosyphilis. Levaditi and Nicolau, making inoculations in the forearm to discover whether the disease was virulent for the human being and whether that virus could be used as a vaccine against syphilis, proved that *Treponema cuniculi* was not virulent for man, because three months after the inoculation no local or general lesion appeared suggesting syphilis, and the Wassermann reaction was negative. The same results were obtained in monkeys.

Considering the multiplicity of spirochetes and the different lesions produced on men and different animals by various forms similar to *Spirochaeta pallida*, I have introduced the word "syphilidogonos," or syphilis producing, for *Spirochaeta pallida*. The barbarians, finding that word long, may try to shorten it by some way or another, but for me, born a Greek, such a mutilation is sacrilegious and I will not sacrifice the grammar and the euphony of my mother language for the sake of abbreviation.

George M. Katsainos, M.D., Boston.

RENAL CREPITATION

To the Editor:—It has often been asserted that a careful, systematic examination of a patient is the only way to arrive at a definite and clear diagnosis. Recently attention is being more frequently called to the fact that the inspection and palpation in physical examination have been much neglected. Dr. Theodore Tieken of Chicago (The Journal, June 18, 1921, p. 1735) writes that such negligence is due to the fact that we nowadays leave all to the laboratory and roentgen rays.

Careful bimanual palpation on a patient suffering from renal calculus gave me an opportunity to find a voluminous calculus in the right kidney. Under my hands I felt large stones within the organ, the sensation resembling that when an ice bag is squeezed. I have named this sign "renal crepitation." In this patient, the roentgen rays revealed a double renal calculus. The patient was operated on after we determined the functional power of both kidneys through ureteral catheterization. The left kidney was first operated on and was found to contain three large calculi. Shortly after we intervened on the right kidney and removed a voluminous calculus weighing 90 gm. (3 ounces, 230 grains), the one that gave the sign of renal crepitation.

Dr. A. G. Casariego, Havana, Cuba.

"DR." AND "M.D."

To the Editor:—I fully indorse the suggestion made by Dr. med. M. C. Goy (The Journal, Jan. 14, 1922, p. 142) of using "Dr. med." before one's name instead of suffixing "M.D." The latter abbreviation is very confusing to foreigners, to whom it really has no meaning, whereas Dr. med. is universally accepted as meaning Doctor of Medicine.

It is very discouraging for a young man to go through the elementary schools, high school, college, and a medical school or university, and then to have his cherished doctor's degree look like the degree of an osteopath, chiropractor or chiropodist. In fact, legislation should be passed whenever and wherever possible that the use of the degree of doctor, physician or surgeon or any degree that could possibly be construed as such be prohibited by any one except he be a duly graduated physician.

Many dentists of late have prefixed Doctor to their names, omitting the word dentist. Chiropractors, osteopaths, chiropodists and Heaven knows who call themselves doctors. In fact, a great many patients, especially foreigners, relating their histories, state that they have been to Dr. So and So, who is a specialist on this or that, and on investigation this so-called doctor is found to be a chiropractor or an osteopath. With the continuous upward trend in regard to the preliminary as well as the medical education of the physician,

protection should be given him by the same powers that raise the standard of medical education.

DR. MED. E. G. MARR, Baltimore.

To the Editor:—Dr. Goy's communication in THE JOURNAL (Jan. 14, 1922, p. 142) was, I believe, a more proper suggestion than that of Dr. Bassler's, because few of us M.D.'s probably know that even this title (M.D.), which seems to belong only to the physician who is a graduate from a school of medicine, is also in some way taken from us by quacks. I enclose a clipping from a school of so-called "Iridiagnosis" which diagnoses diseases from reading the iris of the eye and offers the degree of "Master Diagnostician."

I would suggest that the full word "medicinae" be used by doctors of medicine; otherwise the abbreviation "Med.," as proposed by Dr. Goy, will soon be utilized in some way by quacks.

JOSEPH ECHTMAN, MEDICINAE DR., New York.

EPIDEMIC JAUNDICE IN NEW YORK

To the Editor:—In THE JOURNAL, Jan. 14, 1922, under Medical News from New York, there is an item entitled "Epidemic Jaundice Suspected in the State," in the course of which it is said that "the state health officers are actively investigating what is suspected to be epidemic infectious jaundice, a disease hitherto rarely reported in the United States." The disease is not rare. I have myself reported two small epidemics (*New York Medical Journal*, Aug. 9, 1913, and June 8, 1918). The disease has not been generally recognized for several reasons. It is usually mild in character. Each physician sees only a few cases, so that he is not aware that there is an epidemic. A large number of physicians still look upon the disease as a digestive disturbance (gastroduodenitis) due primarily to improper food. Many of the cases are associated with acetonemia, and the diagnosis of acidosis is made. This disease is not caused by improper food; it is a specific infectious disease, the infectious material having an affinity for the bile passages in the same way the typhoid bacillus has for the follicular tissue of the intestine. It has all the characteristics of an infectious disease, including a definite seasonal incidence from November to February. We have had a large number of cases in New York City during the last three months.

CHARLES HERRMAN, M.D., New York.

"LESLIE'S ON CHIROPRACTIC"

To the Editor:—Noticing that THE JOURNAL, January 14, made reference to an article on chiropractic, which appeared in *Leslie's Weekly*, I procured a copy of the magazine.

Might I say that this seems a step in the right direction—articles exposing such quackery as chiropractic. I wish that every Fellow of the American Medical Association would buy a copy of Leslie's and read Severance Johnson's article on "Chiro-quack-tic" and then leave it on his waiting-room table for his patients to read, or pass it on to some newspaper editor, in his town or city.

It is high time that the medical profession waked up and did a little "advertising" too. This chiropractic humbug should be exposed, and I think that the American Medical Association, the state medical associations and the county medical societies should evolve some kind of program to enlighten the people on health topics and meet the falsehoods of the present-day chiropractic propaganda, which is a menace to public health.

What do you think?

ADAM P. LEIGHTON, JR., M.D., Portland, Maine.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

BLOOD FOR WASSERMANN TEST

To the Editor:—How long after a patient's blood has been drawn can it be used to make the Wassermann test? How long after the blood serum has been extracted can this serum be used for the same test? The director of the Ancón Laboratory states that blood sent from Barranquilla by mail, taking at least four days to reach its destination, has given satisfactory results. All authors consulted by me state that the results are not reliable unless the material is fresh, 24 hours old at the most, and is preserved on ice.

JORGE E. CALVO, M.D., Barranquilla, Colombia.

ANSWER.—While it is true that blood for the Wassermann test gives the best results when it is relatively fresh, yet blood that is 4 or 5 days old will yield reliable results, provided there has been no hemolysis of the red cells and that no bacteria have developed in the specimen. To prevent bacterial contamination, the blood should be placed in a sterile container immediately after withdrawal from the vein, and it may be sent to the laboratory in this container. However, it is much preferable, if one is several days' distant from the laboratory, to separate the serum soon after the blood is withdrawn, conducting all manipulations in sterile containers. Such serum will give perfectly satisfactory results after four or five days.

SODIUM SULPHATE AND ALCOHOL AS ANTIDOTES FOR PHENOL (CARBOLIC ACID) POISONING

To the Editor:—1. Is sodium sulphate an antidote for phenol (carbolic acid)? If so, what is the chemical equation? 2. Is alcohol an antidote for phenol? 3. If not, why is it used after phenol on the appendix stump? Please do not publish my name.

F. A., Ohio.

ANSWER.—1. Sodium sulphate in strong solution is one of the best known antidotes for phenol poisoning. The action is not a chemical one and hence it cannot be represented by the means of a chemical equation (THE JOURNAL, Aug. 12, 1916, p. 535).

2. Alcohol is not an antidote to phenol poisoning. D. I. Macht believes that the use of alcohol as a phenol antidote should be strongly discouraged (THE JOURNAL, July 10, 1915, p. 173). Experiments carried out in the U. S. Hygienic Laboratory show that the toxicity of phenol is increased by alcohol (THE JOURNAL, July 15, 1916, p. 233).

3. It is used in the belief that it will neutralize the action of the phenol and thus prevent extensive sloughing of the tissues. No doubt, the effect of the alcohol is simply that of diluting and washing away the phenol.

PINUSEPTOL

To the Editor:—I wish some information as to the reliability of Pinuseptol, Eli Lilly & Co., for antiseptic preparatory for surgical work. The hospital here has been using a solution of Pinuseptol for sterilizing the hands and instruments preparatory for an abdominal operation in the same manner and with apparently the same confidence that we used to use alcohol, solutions of mercuric chlorid, etc. I fail to find anything mentioned about Pinuseptol in my textbooks, and as this is rather an important matter to determine whether this is really a trustworthy antiseptic or not, I will greatly appreciate any and all information you may be able to give me. If for any reason you do not care to do this I will appreciate your citing me to some authoritative source of information.

N. M. BURNETT, M.D., Lamar, Colo.

ANSWER.—According to the catalogue of the manufacturer, Pinuseptol is a "Pine Oil Disinfectant." The Council on Pharmacy and Chemistry has not examined this proprietary preparation. However, the Bureau of Chemistry of the U. S. Department of Agriculture investigated the general subject and reports that pine oil emulsions made from steam-distilled pine oils, when freshly prepared, give Hygienic Laboratory coefficients varying from 3.42 to 4.34, the average being 3.88. At the end of twelve months the average was 3.66. Pine-oil emulsions made from various grades of pine oils failed to kill *M. aureus* and *B. anthracis* in any dilution capable of emulsification. The government chemists conclude, as a result of their investigation, that these products should not be used for general disinfecting purposes.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

ALASKA: Juneau, March 7. Sec., Dr. Harry C. De Vighne, Juneau.

CALIFORNIA: Los Angeles, Feb. 13-16. Sec., Dr. Charles B. Pinkham, 342 Flood Bldg., San Francisco.

KANSAS: Topeka, Feb. 14. Sec., Dr. Albert S. Ross, Sabetha.

MAINE: Portland, March 14-15. Sec., Dr. Frank W. Searle, 775 Congress St., Portland.

MASSACHUSETTS: Boston, March 14-16. Sec., Dr. Samuel H. Calderwood, State House, Boston.

NATIONAL BOARD OF MEDICAL EXAMINERS. Written examination in Class A medical schools, Part I, Feb. 15-17; Part II, Feb. 20-21. Sec., Dr. John S. Rodman, 1310 Medical Arts Bldg., Philadelphia.

NEW HAMPSHIRE: Concord, March 9-10. Sec., Dr. Charles Duncan, Concord.

VERMONT: Burlington, Feb. 14. Sec., Dr. W. Scott Nay, Underhill.

WYOMING: Cheyenne, Feb. 13-15. Sec., Dr. J. D. Shingle, 206 Citizens Bank Bldg., Cheyenne.

District of Columbia October Examination

Dr. Edgar P. Copeland, secretary, Board of Medical Supervisors of the District of Columbia, reports the oral and written examination held at Washington, Oct. 11-13, 1921. The examination covered 16 subjects and included 80 questions. An average of 75 per cent. was required to pass. Of the 10 candidates examined, 9 passed and 1 failed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Georgetown University	(1920)	89.5
George Washington University	(1921)	86.5
Howard University	(1920) 76.7, (1921) 77.5,	85.6, 85.9
College of Physicians and Surgeons, Boston	(1921)	76.5
University and Bellevue Hospital Medical College	(1902)	87.6
University of Zurich	(1917)*	76
FAILED		
Howard University	(1919)	64.2

* Graduation not verified.

Ohio Reciprocity Report

Dr. H. M. Platter, secretary, Ohio State Medical Board, reports that 25 candidates were licensed by reciprocity from July 5 to Oct. 4, 1921. The following colleges were represented:

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Fort Wayne College of Medicine		(1895)	Indiana
University of Louisville Med. Dept.	(1911), (1917),	(1919)	Kentucky
University of Maryland		(1917)	Delaware
Boston University		(1912)	New York
Harvard University		(1909)	Maine
University of Michigan Medical School	(1918), (1920), (1921)		Michigan
University of Minnesota		(1920)	Minnesota
Ensworth Medical College		(1895)	Missouri
St. Louis University School of Medicine		(1920, 3)	Missouri
Albany Medical College		(1905), (1917)	New York
Columbia University		(1917)	New York
Cincinnati College of Medicine and Surgery		(1889)	Kentucky
Western Reserve University		(1893)	Kentucky
Hahnemann Med. and Hosp. of Philadelphia		(1915)	Penna.
Jefferson Medical College		(1919)	Penna.
Medico-Chirurgical College of Philadelphia		(1915)	Penna.
Meharry Medical College		(1906)	Kansas

Porto Rico October Examination

Dr. M. Quevedo Baez, secretary, Porto Rico Board of Medical Examiners, reports the written and practical examination held at San Juan, Oct. 4, 1921. The examination covered 9 subjects and included 90 questions. An average of 75 per cent. was required to pass. Thirteen candidates were examined, all of whom passed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
George Washington University	(1921)	77.2
Howard University	(1921)	83
University of Maryland	(1921) 76.6,	80.3
Harvard University	(1921)	82.7
Detroit College of Medicine and Surgery	(1921)	79.8
University and Bellevue Hospital Medical College	(1921)	77
Jefferson Medical College	(1920) 78.2, 83.1, (1921)	80.1
University of Tennessee	(1919)	76.2
Medical College of Virginia	(1916)	75
University of Havana	(1921)*	82.7

* Graduation not verified.

Social and Industrial Medicine

COURT RULES ON VACCINATION

On June 5, 1920, as reported in the *Bulletin of the Chicago School of Sanitary Instruction, Department of Health*, the commissioner served notice on the superintendent of schools that an epidemic of smallpox was impending near a school, and directed the superintendent to exclude for eighteen days all pupils who had not been vaccinated at that time or would not consent to be then vaccinated. Twelve children came back with notices that their parents would not have them vaccinated, and the children were accordingly barred from the school. Damage suits for $10,000 each were brought by the parents of the children against the superintendent of schools and the principal of the school from which the children were barred. On Jan. 4, 1922, the first of these cases was heard before Judge Joseph B. David and a jury in the Superior Court of Cook County. The judge instructed the jury to find for the defendants. In summing up, the judge said, in part:

> The court is of the opinion that it would make no difference whether this boy was legally or illegally excluded from the public schools. There could be no liability under any circumstances unless there was evidence that the defendants, or some of them, acted maliciously.
>
> There is not the slightest evidence in this case that Peter A. Mortenson, Superintendent of Schools; Ernest E. Cole, First Assistant Superintendent of Schools; Rufus C. Hitch, District Superintendent, or Washington D. Smyser, Principal of the Portage Park School, were not acting in good faith, and without regard to the question whether or not there could be any damages flowing to the plaintiff (which the court is of the opinion there is not in this particular law suit), there could be no liability. If public officials are to be subjected to law suits when they exercise discretionary powers and, because they may be mistaken, can be mulcted in damages, then no person would ever accept any public position of any kind. I have been trying to be very patient to see if I could discover some basis upon which there might be a liability, because I do not want to put a man out of court if there is even an iota of evidence or even a probability that the law gives him some remedy.
>
> . . . Surely it was not the province of the principal or the Superintendent of Schools to go out with a fine tooth comb to discover whether or not these children did have smallpox. The Superintendent had a right to act upon the direction of the Health Department, and he cannot be held liable unless it can be shown that he or some of his associates acted maliciously. If a teacher or a principal of the public schools is to be mulcted in damages every time he excludes a child from the public schools, then he would never know when to act.
>
> . . . I do not believe an authority can be found in these United States that would subject a teacher or principal, or a superintendent of schools to damages for excluding a child, even though he did it without authority, if he acted without malice, and that means malice in the ordinary sense of the word—an act done with some wrongful motive. It won't do to say that every time a public official acts, someone is going to sue him. If that was the case, he would never act. I think the Superintendent of Schools in this case is to be commended for the attitude taken.
>
> The Supreme Court of this state has put its stamp of approval in language that anybody can read, thus:
>
> Vaccination is now recognized as the only safe prevention for the spread of smallpox.
>
> It is true that every man and woman has a right to determine for himself or herself whether he or she will be vaccinated. They do not have to believe in doctors; they may say "throw physic to the dogs"; they have a right to do anything they please in that regard so long as they do not injure someone else.
>
> Public officials have a right to be guided by what science has demonstrated to be as near the truth as truth can be ascertained, and science has come to the conclusion universally that vaccination is a preventive of smallpox, notwithstanding that some people may differ with it. Science has agreed upon that proposition and I think the Supreme Court of this state properly has said so, in view of the experience of years, ever since Jenner discovered vaccine.
>
> The parents of this child have a constitutional right, and if they do not want their child vaccinated, he does not have to be vaccinated, but when he goes to the public school they must recognize the greatest good to the greatest number, and if there is danger of smallpox, it is the duty of the Superintendent of Schools to see that the children are vaccinated or that they are excluded from the schools until such time as there is no longer any danger of the disease spreading.
>
> . . . I cannot see the slightest bit of evidence, the slightest basis upon which to predicate a liability in this case.

Examination of Parents for Syphilis.—Syphilis may be the cause of miscarriage, stillbirth or of early death from congenital debility, or premature birth. These conditions are so frequently due to syphilis that it is believed advisable to examine the parents for syphilis and test their blood by the Wassermann method in all such cases.—M. Knowlton, *Pub. Health Rep.* **36**:2310 (Sept. 23) 1921.

Book Notices

STUDIES IN THE PALÆOPATHOLOGY OF EGYPT. By Sir Marc Armand Ruffer, Kt., C.M.G., M.D. Edited by Roy L. Moodie, Ph.D., Associate Professor of Anatomy in the University of Illinois. Cloth. Price, $7.75 net. Pp. 372, with 71 illustrations. Chicago: University of Chicago Press, 1921.

Sir Marc Armand Ruffer, who died at the hands of the enemy in the spring of 1917 while returning from Saloniki, where he had gone to reorganize the sanitary service of the Greek provisional government, enjoyed a far more varied career than falls to the lot of most bacteriologists and pathologists. Born in France of a German mother and a French father, educated in Oxford, London and Paris, he spent the greater part of his active professional life in Egypt. With his broad educational background, it is not strange that he became interested in the disclosures of ancient pathology afforded by the excavations of the ancient dead of Egypt, and his many contributions to this subject have been from time to time the subject of editorial review in THE JOURNAL. He had planned to retire from active duty in 1919 and to devote himself to the preparation of a work dealing with his antiquarian studies. This having been prevented by his untimely end, Lady Ruffer, his associate in his scientific work, has issued this volume, which deals chiefly with his studies on the evidence of disease in ancient Egypt. The editing has been carried out by that enthusiastic American student of paleopathology, Prof. Roy L. Moodie of the University of Illinois. Not only are strictly pathologic subjects discussed, but many topics of great historical importance, such as the physical effects of consanguineous marriages in the royal families of ancient Egypt, the history of trephining, the effects of diet on teeth, and the court dwarfs as protrayed in Egyptian art, are presented. The medical revelations of this fascinating book are discussed in some detail editorially in this issue. A work of so much permanent value as an historical document is entitled to presentation in the best possible form, with adequate and clear illustrations. These things have been abundantly provided by the publishers, and the work will stand, as intended, as an appropriate monument to a great student and a pioneer in a new department of historical science, paleopathology. At the same time it is one of the most interesting books that have ever been presented on the historical side of medicine.

THE AMERICAN LANGUAGE. An Inquiry into the Development of English in the United States. By H. L. Mencken. Second Edition. Cloth. Price, $6. Pp. 492. New York: Alfred A. Knopf, 1921.

There are certain salient differences between the English of England and the English of America, as practically spoken and written. Because of the free interchange of medical literature, physicians, particularly, are interested in these differences. For example, Mr. Mencken cites early in his book a comment appearing in the *Medical Press and Circular* on an article by MacCarty and Connor, published in *Surgery, Gynecology and Obstetrics*. "In the study of the terminology of diseases of the breast," says the British editor, the authors "suggest a scheme which seems simple; but, unfortunately for British understanding, it is written in American." In his introductory chapter Mr. Mencken shows that there are many basic differences in the languages and that the question has been, heretofore, insufficiently studied. He then traces the beginnings of American from the earliest changes originating with the Pilgrim fathers, through the innovations of successive groups of immigrants to the highly colored language and diction of the present. Mr. Mencken sustains his reputation as a keen observer of contemporary life in our republic, and his text is frequently enlivened by satirical flashes at traits as revealed by language. Of this type is the section on "Honorifics," including paragraphs on the terms "Dr." and "Professor." The section on "Forbidden Words" is a clever study of false modesty as revealed by language. Special mention is made of the literary and newspaper tabu of such words as "syphilis," "gonorrhea," and even "stomach." Among certain tendencies in American, attention is called to the manufacture of verbs from nouns and such usages as "to operate (transitive)." The latter, the author believes, is almost common usage, and "The Journal of the American Medical Association," he says, "wars upon it in vain." After paying his somewhat caustic respects to American pronunciation, spelling and the common speech, he takes up "Proper Names in America." For those who have given the matter little thought or consideration, this section will prove a revelation in international psychology. The changing of names for esthetic or commercial reasons has long been endemic in America, and with the war became virtually epidemic. The directory department of the Association could provide Mr. Mencken with numerous instances to add to the many amusing and instructive examples which he presents. Sections on American slang, on the future of the language, and several appendixes including examples supplied by "Ring" Lardner and J. V. A. Weaver, and the Declaration of Independence in American by Mr. Mencken complete the volume. It is a praiseworthy and satisfactory treatise of general philologic and psychologic interest.

PUBLIC HEALTH SURVEYS. What They Are, How to Make Them, How to Use Them. By Murray P. Horwood, M. S., Ph.D., Instructor Department of Biology and Public Health, Massachusetts Institute of Technology. Foreword by William T. Sedgwick. Introduction by George C. Whipple. Leather. Price, $4.50. Pp. 403, with 95 illustrations. New York: John Wiley & Sons, Inc., 1921.

One of the interesting attempts made by the American people to remedy the general inefficiency of their municipal governments is the extra-official, privately instigated and supported municipal survey. The facts elicited by such surveys have frequently been the starting point of municipal reform. The public health survey has usually constituted an important part of the general municipal survey, and in some cases has served by itself to draw attention to official shortcomings or municipal parsimony. Numerous sanitary surveys have already been made and published, and the results of widespread experience have become available. This book is a meritorious attempt to utilize the results of these inquiries in a standardization of methods, tabulations, etc. The book contains many useful suggestions for those engaged in the study of public health problems in communities of all sizes and conditions. It will prove a useful guide and handbook. The illustrations are excellent. The bibliography is especially comprehensive. A weak point, and one that should be corrected in subsequent editions, is the lack of a clear, comprehensive scheme indicating just what problems are worthy of attack and how much weight should be assigned to the various portions of the inquiry. The multitude of questions given in the text should be cut down materially. Some of them can serve no useful purpose for public health workers. On page 112, for example, the question is asked, "Is the service of collecting the rubbish and ashes performed free of charge to the residents?" The connection of such inquiries with public health is certainly remote. There are many instances of this sort.

ACUTE EPIDEMIC ENCEPHALITIS (LETHARGIC ENCEPHALITIS). An Investigation by the Association for Research in Nervous and Mental Diseases. Report of the Papers and Discussions at the Meeting of the Association; New York City, December 28 and 29, 1920. Cloth. Price, $2.50. Pp. 258, with 36 illustrations. New York: Paul B. Hoeber, 1921.

This little book is made up of contributions by thirty-five authors, the contributors having been selected by the officers of the Association for Research in Nervous and Mental Diseases. The entire material as originally submitted was sifted, abbreviated and arranged by a competent publication committee. There are two novel features. After an author presented his paper, he was asked such questions as occurred to the commission. In other words, he was asked to defend his thesis or amplify it. These questions and answers are incorporated in the text. At the end of each of the seven chapters are printed the conclusions of the commission. As the commission is made up of exceptionally well qualified neurologists, this feature is not only interesting but very valuable. Every phase of the subject, from history and general considerations to animal experimentation, is covered, and the work as a whole is quite the best thing that has appeared on this polymorphous and puzzling disease. No active internist or neurologist can afford to be without the book.

Medicolegal

Use of Parks by Sick and Crippled—Location of "Health Resort"

(Blackman Health Resort v. City of Atlanta et al. (Ga.), 107 S. E. R. 525)

The Supreme Court of Georgia reverses a judgment that on general demurrer dismissed the plaintiff's petition asking that the defendants be compelled by a writ of mandamus to grant to the plaintiff permission to erect on property which it had acquired adjacent to Piedmont Park, in the city of Atlanta, a building to be used as a "tourist and health resort." The court holds that the building was prima facie included in the class described in the code of the city as "a house to be used as a private sanatorium, hospital or boarding house, or other house of like character, wherein patients are kept and medical or surgical treatment is given." Among the objections urged against the petition was that the property on which it was proposed to erect the health resort was only 115 steps from the entrance to Piedmont Park; that the park would become an annex for crippled and deformed persons; that blood disease patients from the building would use and pollute the swimming pool in the park; that to grant the permit would establish a precedent and render it necessary to permit other hospitals to be located near the park; that children would be kept away from the park by parents on account of the nearness of invalids and convalescents in the building; that the proximity of the park to the building would be used as an advertising feature; that to permit the erection of the building would commercialize the park; that no sanatorium town ever exceeded 50,000 people, and no city known as a health resort ever becomes an up-to-date city; and the sanatoriums do not aid in the effort to establish a city with a population of 500,000. It would seem, however, the court says, that public parks of a city are intended for the free use of sick persons, cripples, invalids and convalescents, as well as persons enjoying perfect health, and children and their nurses. So far as the court is aware, it has never been suggested that any one or more of these classes can be arbitrarily prohibited the use of a public park directly or indirectly, or that their presence is unwelcome. Indeed, the court is of the opinion that a public park is intended primarily for the purpose of benefiting the public health by affording abundance of pure air to those lacking in health, as well as for preserving health. That those having blood disease may pollute the waters affords ample reason for providing reasonable regulations for the privilege of swimming in the lake; but such regulations would seem to be just as imperative to prevent such dangers from diseased persons not patients at the proposed resort or in any hospital elsewhere. The court thinks it obvious that a "tourist and health resort," not only is not per se or in and of itself harmful to public health and morals, but when properly located and conducted, is legitimate, beneficial and humanitarian. Yet, notwithstanding the fact that the business is not per se injurious to public health and morals, it belongs to the class included within the control of the police power of the state; and over the building the municipal authorities may exercise reasonable discretion and supervision to prevent it from becoming a nuisance to the public. It would be an arbitrary and illegal exercise of power to decline the permit, unless it was shown that the building was injurious to health and morals.

Treatment of Alleged Osteomyelitis with Vaccine—Mistakes in Judgment

(Edwards et al. v. Uland (Ind.), 131 N. E. R. 240)

The Appellate Court of Indiana, Division No. 2, reverses a judgment for $2,000 damages rendered for plaintiff Uland, who alleged that the defendants had carelessly and negligently advised and used the vaccine treatment for osteomyelitis in the upper part of his left arm. The court says that it appeared by undisputed evidence that when the plaintiff presented himself to defendant Edwards, the latter, after some examination, concluded that it was a case in which he should have advice and assistance, and therefore, at his suggestion, on the next day, the other defendant was called into consultation, and together the defendants took a history of the ailment, and, learning of past ailment, they stripped the patient, that they might better observe the results of such past ailment and treatment. Numerous scars appeared from previous operations. Because of a history of osteomyelitis, they made use of the common tests to discover the presence of that disease, including pressure, blood count to determine whether there was an increase of white cells, microscopic examination of the blood for infection, test of blood pressure, urine analysis, and finally a roentgen-ray examination of the affected arm, showing, as it appeared to them, that there was a normal condition of the bone. From all of this they determined that there was no osteomyelitis at that time and no need of a surgical operation, and that a vaccine treatment was the proper treatment.

The defendants did not admit that they were mistaken in the method of their treatment, but, even if they were, and the court may add that the fact that there was a speedy recovery following surgical treatment rendered by another physician lent force to the contention that they were mistaken in their treatment, still this was not of itself suffient to require them to respond in damages. A physician is not ordinarily liable for damages consequent on an honest mistake or error in judgment in making a diagnosis, in prescribing a treatment, or in determining whether an operation is necessary, when there is a reasonable doubt as to the nature of the physical conditions involved, or as to what should be done in accordance with recognized authority, and good current practice. A surgeon might possess great learning and skill, and, when performing a certain operation, might be as careful as possible, yet it might be that a prudent and skilful man of that profession in the same circumstances and conditions would not have performed such an operation; the difference being in their judgment as to the necessity of the operation.

There is no presumption of negligence, or want of skill, from a failure to cure. The mistake of the physicians in this case, if any, was in determining after careful diagnosis the method of treatment that they would follow; that a cure would be effected by the use of vaccine, without surgery. Having determined the method of treatment, had there been a question as to whether they were careless and negligent or unskilful in the use of that method, there would clearly have been a question for the jury as to a fact. But when there is a state of fact conceded or proved, it becomes the duty of the court to draw the conclusion as a matter of law. If there is a conflict of testimony presenting different views of the case from the facts proved, the court is in like manner on these views to draw the proper conclusion that there can be no recovery, for the conflict is one of judgment or opinion, and not of fact. In this case, under the facts proved, there was at most but a mistake in judgment after, as the facts showed, a careful diagnosis of the case. Wherefore the judgment entered on a verdict in favor of the plaintiff is reversed, with instructions to the trial court to grant a new trial.

Difference in Order Requirements for Administering and Selling Morphin

(Loewenthal v. United States (U. S.), 274 Fed. R. 563)

The United States Circuit Court of Appeals, Sixth Circuit, in affirming a judgment of conviction of defendant Loewenthal, a physician, who was charged with violating the Harrison Narcotic Law, says that, under said act, the defendant, if registered and taxed as a physician, was not required to take a written order, or to keep a record of morphin administered by him to a patient as an element of medical treatment in good faith; but, although registered and taxed as a physician, and only as a physician, he could not lawfully sell, bargain, or give away morphin without at least taking a written order therefor. Again, the court says that the offense was the same, whether the defendant made but one sale without registering, or whether the sale in question was in the regular course of an unlawful business. Nor was a conclusion that the defendant did not buy certain stock for unlawful purposes inconsistent with a conclusion that he actually used portions of it unlawfully.

Society Proceedings

WESTERN SURGICAL ASSOCIATION

Thirty-First Annual Meeting, held at St. Louis, Dec. 9 and 10, 1921

The President, DR. CHARLES D. LOCKWOOD, Pasadena, Calif., in the Chair

Acute Osteomyelitis; Regeneration of Entire Shaft of Humerus

DR. FRANK G. NIFONG, Columbia, Mo.: This case shows the wonderful capacity provided by nature for the building of new bone after an acute infection. There was an extensive destruction *en masse*. The sequestrum was the entire shaft of the humerus. Only the articular surfaces of the extremities were left with the periosteum or involucrum which was the periosteum, and barely palpable plaques of bone with it. Complete reformation of the humerus took place, and nothing could demonstrate the importance of the periosteum and its function more clearly than this case. In forty days the roentgen ray showed only a nebulous shadow, but in another forty days a definite shaft line was visible.

Pathology of Osteomyelitis

DR. ARTHUR C. STOKES, Omaha: In thirty-eight cases of osteomyelitis studied, the age of onset was between 8 and 12 years. The femur was involved more often than any other bone, twelve times; tibia, six; humerus, five; pelvis, four; tarsal bones, four; skull clavicles and phalanges, two each; ribs, fibula, radius and ulnar, five each. In eleven cases, multiple lesions were present. Trauma was given as an etiologic factor in eighteen cases. Distant foci of infection were traced seven times. Staphylococci were present in fifteen cases; streptococci in four. The treatment of osteomyelitis is clear, namely, early thorough opening and perfect drainage.

Carpal Bone Fracture Dislocations

DR. KELLOGG SPEED, Chicago: The causative mechanism is practically always in closed fracture a fall on the hand. Immediate and prolonged immobilization of the wrist is the immediate treatment. If the fracture has been neglected, and there is nonunion or cavity formation, excision of the whole bone is necessarily the procedure of choice. A dislocated carpal bone, replaced within a short time after dislocation, might renew its vascular connections and continue to live; otherwise the bone probably will lie in the wrist as an irritating foreign body. The cavity from which any dislocated fragment is extruded tends to shrink rapidly and to become filled with fibrous tissue. It is quite impossible to return the bones to these shrunken areas; it is undesirable to do so, because neighboring bones must not be damaged.

The Lesser Injuries to the Back and Their Industrial Significance

DR. OLIVER J. FAY, Des Moines, Iowa: Fractures of the spinous process are numbered among the traumatic lesions whose industrial significance far overshadow their anatomic importance. Formerly a large percentage was grouped under the head of traumatic lumbago. The number of such injuries that have come to me for compensation adjudication have destroyed my faith in the simplicity of the problem. Accurate diagnosis and adequate therapy materially lessen the period of disability in these lesser injuries of the back, but a clearer understanding of the character of such injuries and their prognosis is even more essential if we are successfully to combat the increasing number of cases of compensation neuroses. Prevention is better than treatment, and prevention is possible in a large percentage of these cases if accurate prognosis is made possible by careful diagnosis.

Cholecystostomy or Cholecystectomy—Which?

DR. MYLES F. PORTER, Fort Wayne, Ind.: All evidence at hand supports the contention that the gallbladder is an important organ, and evidence is not yet at hand to warrant the conclusion that its removal leads to no serious consequences. Cholecystic disease frequently, if not usually, originates in the liver. Routine cholecystectomy frequently fails to cure and leads to the removal of healthy gallbladders in more than 4 per cent. of cases. The gallbladder should not be removed unless it has been rendered useless or dangerous by disease.

Surgical Treatment of Abscess of the Lung

DR. OSCAR M. SHERE, Denver: A few days of complete rest in bed should precede operation. While brilliant results have been obtained by the use of positive pressure apparatus and intratracheal insufflation in endothoracic operations, I am firmly convinced that their employment is not in the least essential. The ordinary drop method administration of ether or gas and oxygen is fully as efficacious and just as safe to the patient. In the course of animal experiments I developed a technic by means of which the danger of operative pneumothorax may be reduced to a minimum, if not eliminated entirely. When the air is permitted to enter through the pleural opening slowly and gradually, an equilibrium is established between the pressure of the inspired air by way of the trachea and that entering through the thoracotomy opening to the end that respiration is not greatly impeded and dyspnea is comparatively absent. The visceral pleura is exposed and an ordinary cambric needle is introduced and permitted to remain for about two minutes, when it is withdrawn slowly and a small cannula is then introduced through the opening made by the needle and permitted to remain about the same length of time. This is followed by a larger sized cannula and so on until a fair sized opening through a cannula corresponding in size to a No. 16 English catheter has been made in the pleura. The opening is then sufficiently enlarged for the introduction of a rib spreader, and the lung which is devoid of collapse is exposed. The abscess cavity is then located either by palpation or needle, and opened by means of a cautery brought to a dull red heat. Into the cavity a tube is introduced through a large piece of rubber dam, in the form of a cornucopia, which is large enough to be spread over the chest; and into this tampon, strips of iodoform gauze are packed snugly all around the tube. The rib spreader is now withdrawn, no sutures are employed, a large, loose dressing is applied over the tube, and the whole side of the chest is tightly strapped with adhesive plaster. Drainage should be kept up until the symptoms have disappeared, when the cavity will be obliterated and closure will rapidly take place in the majority of cases.

Acute Traumatic Abdomen

DR. T. C. WITHERSPOON, Butte, Mont.: Although the preponderance of cases reported are injuries below the umbilicus, there are sufficient numbers of cases occurring with supraumbilical injury to warrant the inclusion of that area in the so-called danger zone. In any event, the exact location of the external injury cannot be considered as much of a determining factor as can the condition of the abdominal musculature and the underlying bowel at the time of trauma. These two things, along with the character and velocity of the contusing agent, are the essentials in the mechanism of this type of injury. There is but one safe treatment: early exploratory operation. The earlier the operation is done the lower the mortality rate will be. The procedure at the operation is largely a matter of choice in each individual case. It has been our custom to rely entirely on sponging out the offending material with as little trauma as possible.

Tumors of the Breast

DR. CARL E. BLACK, Jacksonville, Ill.: Among 107 cases sixty-four were accompanied by a sufficient number of signs and symptoms to justify the diagnosis of cancer. In twenty-six cases there was tumor induration of the breast, permanent, but not accompanied by a sufficient number of signs and symptoms to justify a completed diagnosis of cancer. In thirteen cases the diagnosis was doubtful. Four cases were inoperable. The following rules have been adopted by some hospitals, and are worthy of consideration: (1) In patients under 30, with chronic cystic mastitis a partial excision of the breast may be done in selected cases. (2) In patients

between 30 and 40 with chronic mastitis, the breast, fascia and pectoral muscles should be removed. (3) In patients over 36 with chronic cystic mastitis, a radical operation should be done. (4) In every case of doubt in chronic cystic mastitis, the patient should be given the benefit of the doubt and a radical operation should be performed.

Ectopic Pregnancy

DR. JOHN L. EVANS, Wichita, Kan.: The seventeen cases of ectopic pregnancy occurred mostly in women between 30 and 40 years of age. The youngest was 20 and the oldest 46. In three, the rupture occurred near the horn of the uterus; the remainder were of the ampullar type. Many of the women were in extreme shock, showing evidence of marked internal hemorrhage. The diagnosis was made before rupture in only two or three cases. The seventeen women were operated on without a fatality, but in no instance was the operation performed until the patient had at least partially recovered from shock. These women were operated on from twenty-four hours to ten days after their arrival at the hospital.

Tuberculous Empyema

DR. LEWIS HUGH MCKINNIE, Colorado Springs: As tuberculous empyema is a complication of pulmonary tuberculosis, frequently of its advanced stages, the prognosis is often grave. The most favorable cases are those without marked lung involvement. Unfortunately, many of the cases encountered are terminal phases of the lung disease or are identified with late and disastrous accidents of the pulmonary tuberculosis, such as the rupture of large cavities into the pleura in individuals whose resistance is already exhausted. Open drainage in tuberculous empyema is an unsatisfactory and often a disastrous procedure when the end-results are considered. The presence of other organisms in the pleural pus besides the tubercle bacillus—mixed infections—is a condition which can be treated successfully by aspiration and air, which is contrary to the usual teaching. The tuberculous base of empyema is often overlooked.

The Nontraumatic Acute Abdomen

DR. W. W. GRANT, Denver: The most common causes of this condition are acute infections of the appendix and gallbladder, perforation of duodenal, gastric and typhoid ulcers, and intestinal obstruction before or after operation. Two conditions in abdominal surgery admit of no operative delay, even in the presence of shock; these are hemorrhage and perforation. The condition and environment of each patient will, as a rule, determine the operative procedure and form and extent of anesthesia.

Excision of Ulcer of Duodenum

DR. E. STARR JUDD, Rochester, Minn.: The excision of ulcer is particularly indicated if the entire ulcer can be excised and the duodenal lumen maintained, and if the entire operation can be performed more easily than gastro-enterostomy. If the ulcer is of the type that bleeds during an attack, excision is preferable. If localized pain is one of the chief symptoms and dyspepsia is slight or absent, it is better to excise the ulcer if it can be done readily. If the gastric acids are not high, and especially if the patient has a tendency to neurasthenia, it is best to excise the ulcer rather than to perform gastro-enterostomy. In the operation which I perform, the ulcer is excised without any attempt to enlarge the pylorus. This operation is based on the belief that the ulcer is the cause of the symptoms and that its removal will be all that is necessary for complete relief.

Sciatic Hernia and Myxomatous Tumor of Scrotum in the Same Individual

DR. JOHN E. SUMMERS, Omaha: A man, aged 53, had a large, heavy scrotal tumor reaching almost to the knees. It had been in process of growth for three years, as had also a bulging, replaceable swelling in the right gluteal fold. There was a right inguinal hernia, the sac of which reached the upper part of the scrotum; also a small postoperative (appendicitis) hernia in the median line, low down. The gluteal tumor was about the size of a large adult fist and had all the characteristic phenomena of a true ischiatic hernia; but, as it was making no special disturbance and was easily reduced, it was not deemed advisable to operate on it, because of other complications due to the scrotal tumor. The scrotal tumor had the gross characteristics of elephantiasis. Under ether it was removed, and found to have a pedicle about half as large as an ordinary man's wrist, passing up in the perineum between the rectum and urethra, and above forming part of a pelvic tumor, which was palpable and reached about one quarter of the way toward the umbilicus. The wounds healed kindly, and roentgen-ray treatments were instituted. A few months later, the pedicle, which had grown downward forming a mass the size of a goose-egg, was removed; the pelvic tumor likewise had enlarged. The pathologic report designated the tumor as a myxoma. The growth of this scrotal tumor follows the embryonic development of the scrotum itself.

What Can Be Done in the Apparently Hopeless Recurrent Cases of Carcinoma and Sarcoma

DR. EMIL G. BECK, Chicago: I wish to point out the great advantage of removing the overlying structures, such as muscle, skin and bones, from deep-seated carcinoma and sarcoma to make irradiation more effective. This method has been employed in more than 100 cases in the apparently hopeless recurring or inoperable cases of carcinoma of the breast, neck, rectum and lungs. This method has the advantage of converting the deep-seated tumor into a superficial one, and thus the results are far more satisfactory. Further advantage is the prevention of toxemia.

Tuberculous Tenosynovitis of the Hand

DR. ALLEN B. KANAVEL, Chicago: Tuberculosis of the tendon sheaths may occur in both the flexor and dorsal tendons. Diagnosis should be made early on the suggestive fulness over the tendon sheaths, the slight stiffness of the fingers, and inability completely to flex or extend them. One should not wait until rupture has taken place or there has been a destruction of the tendon, which will ensue if the process lasts any length of time. Operative intervention consists in the complete resection and removal of all tuberculous tissue, including the tendon, if necessary, with plastic operation to restore function.

Papillary Cystadenoma of the Male Breast

DR. VERNON C. DAVID, Chicago: The literature contains records of only eleven cases of papillary cystadenoma ocurring in the male breast. My patient was a man, aged 82. Fifteen years before I saw him he noticed a small lump under the left nipple, and shortly after this a milklike discharge from the nipple began and persisted until local removal of the tumor and nipple three years after its first appearance. About a year after the local removal, a small nodule developed to one side of the scar, and this had slowly increased in size. Later two other nodules developed in close proximity to the first recurrence, and these had slowly but steadily grown for the past eleven years until they had fused together into a three-knobbed tumor, which during the last few years had been attached to the skin overlying the tumor. The skin had become thin, shiny and discolored, ranging from blue at the base of the tumor to red at the apexes of the three prominences. During the last two years a tumor the size of a walnut had developed apart from the main mass at the lower border of the pectoralis major in the lower outer quadrant of the breast. This tumor was only slightly attached to the skin, and had relatively little color change over it. All of the tumor mass was movable on the pectoralis fascia. The axillary glands were not enlarged. The tumor was removed. The microscopic diagnosis was recurrent papillary cystadenoma of the ducts.

Diaphragmatic Hernia

DR. ARTHUR T. MANN, Minneapolis: A man, aged 30, had been treated for an ulcer of the duodenum. He applied for treatment of a condition which was diagnosed hernia of the pyloric end of the stomach and duodenum. Operation showed this to be true, and the opening to be a transverse silt in the diaphragm. Three months and a half after operation the patient reported himself free from all gastric disturbance.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Archives of Dermatology and Syphilology, Chicago

January, 1922, **5**, No. 1

*Treatment of Antenatal and Congenital Syphilis. J. A. Fordyce and I. Rosen, New York.—p. 1.
*Treatment of Syphilis by Mercury Inhalations. H. N. Cole; A. J. Gericke and T. Sollmann, Cleveland.—p. 18.
Erythema Nodosum Syphiliticum. E. L. McEwen, Chicago.—p. 34.
*Excretion of Arsenic After Serial Administration of Arsphenamin and Neo-Arsphenamin. F. P. Underhill and S. H. Davis, New Haven, Conn.—p. 40.
Elimination of Arsphenamin and Neo-Arsphenamin in Urine. Chemical and Clinical Study of Abelin Reaction. B. B. Beeson and P. G. Albrecht, Chicago.—p. 51.
*Itching in Syphilis. W. J. Highman, New York.—p. 63.
Oriental Sore: Four Cases. D. K. Smith, Toronto, Can.—p. 69.
*Epitheliomas of Face and Their Treatment with Radium. H. Morrow and L. Taussig, San Francisco.—p. 73.
*Hypothroidism with Unusual Skin Manifestations. Report of Case. H. P. Towle and E. L. Oliver, Boston.—p. 88.
*Fatty Acids of Chaulmoogra Oil in Treatment of Leprosy and Other Diseases. H. T. Hollmann, Honolulu, Hawaii.—p. 94.
Lichen Planus et Acuminatus Atrophicans. S. Fedlman, New York.—p. 102.

Treatment of Antenatal Syphilis.—Fordyce and Rosen urge that every prospective mother should receive a routine Wassermann examination. The proper treatment of a syphilitic mother during pregnancy will undoubtedly result in the birth of a healthy infant. Every infant born of a mother or father with syphilis should have a Wassermann test made at birth; again two weeks later, then every four weeks up to six month, and after that every three months up to two years. If the reaction is negative with all these tests and no clinical signs have appeared, the baby has in all probability escaped the infection. Occasionally an infant with active clinical signs of syphilis will give negative serologic findings, usually only temporarily. The clinical diagnosis should always take precedence over the laboratory diagnosis and proper treatment should be instituted. In the treatment of patients having congenital syphilis, the authors have adopted as the method of choice the systematic intramuscular injection of neo-arsphenamin and mercury. They have been able to obtain negative reactions in fourteen infants out of a total of forty-seven with four plus blood reactions, when the treatment was begun within the first few months.

Mercury Inhalations in Syphilis.—Cole, Gericke and Sollmann review the literature and report on their observations with the inhalation of calomel and metallic mercury in syphilis. Inhalations of from 5 to 80 mg., totaling 225 mg. in two weeks, were taken by each of five patients, with active syphilitic lesions. None of these showed any therapeutic response, nor any renal changes. All but one exhibited definite bronchial irritation, salivation and tenderness or edema of the gums. The bronchial irritation and salivation occurred at the time of each inhalation, and were evidently due to direct local contact with the calomel, and not to systemic action. Inhalations of from 5 to 160 mg. of mercury, to a total of from 225 mg. in two weeks to 750 mg. in three weeks, were administered to each of six patients. No systemic or local effects resulted; no salivation (except in one doubtful case) and no sore gums. The weekly dosage amounted to from two to five times the customary intramuscular dosage. It is evident that the absorption must be materially smaller than with intramuscular injections. The results indicate that the administration of mercury compounds by inhalation has no advantage over oral administration; but, on the contrary, it has the serious disadvantage of indefinite dosage, and the consequent difficulty of steering between inefficiency and danger, and of special danger of respiratory irritation.

Excretion of Arsenic After Arsphenamin Administration.—The observations made by Underhill and Davis are interpreted to mean that in the early intervals of the serial treatment with arsphenamin and neo-arsphenamin the arsenic compounds are retained in the body up to a point at which the tissues are, as it were, saturated with them. When this point has been reached further additions of the arsenical preparations are in large measure quickly eliminated from the body. If this interpretation is correct, it would seem logical to modify the serial treatment to the extent that smaller doses may be given when the point of saturation has been reached, unless it is at this point that the initial beneficial influence is exerted. It would appear that the point of saturation is attained at about the fourth injection.

Itching in Syphilis.—The outstanding features of Highman's case are the negative history, the negative serum test, the atypical character of the lesions, and above all their itching. Every fact negated the likelihood of syphilis, including the minute anatomy of the lesions, and only the therapeutic diagnostic procedure, with provocation of the Wassermann test, finally solved the problem.

Radium Therapy of Face Cancers.—In the treatment of basal cell carcinoma of the face Morrow and Taussig assert it is seldom necessary to employ buried bare tubes of radium. Surface application, except in the deeply infiltrated and very extensive cases, are usually satisfactory. In the great majority of squamous cell carcinomas, buried bare tubes, used in conjunction with surface applications, have been very helpful. In the radium treatment of deep carcinomatous infiltrations, buried bare tubes are almost a necessity.

Hypothyroidism with Skin Eruption.—The patient whose case is reported by Towle and Oliver was a young child under their observation on three different occasions. They were able to observe the evolution and involution of each attack from start to finish. The salient characteristics of the various attacks have been the same. The eruption, starting at a given point, would spread by the development of new lesions at a distance until it had become universal. In each attack the primary lesion was a purulent, subepidermal vesicopustule of pinpoint size, which rapidly undermined the lower layers of the epidermis and finally broke through, leaving a jagged tear like that made by a rough-pointed stick pushed through a sheet of paper; marked redness and edematous swelling were present. A high temperature characterized the first two attacks, but not the third.

Fatty Acids of Chaulmoogra Oil in Leprosy.—Hollmann states that the fatty acids of chaulmoogra oil, either in the form of the sodium salt or in the ethyl ester, will cause a disappearance of the leprosy bacilli and the lesions of the disease, if administered over a sufficiently long period. From the results obtained in two cases of lupus, the ethyl esters of chaulmoogra oil fatty acids should be given a trial in cases of this disease, as well as in other forms of tuberculosis.

Archives of Neurology and Psychiatry, Chicago

January, 1922, **7**, No. 1

*Prognosis of Involution Melancholia. A. Hoch and J. T. MacCurdy, New York.—p. 1.
*Spinal Subarachnoid Block as Determined by Combined Cistern and Lumbar Puncture: Early Diagnosis of Cord Tumor. J. B. Ayer, Boston.—p. 38.
*Acute Benign Meningo-Encephalitis with Papilledema. F. Kennedy, New York.—p. 53.
More Accurate Clinical Method of Diagnosis of Peripheral Nerve Lesions and of Determining Early Recovery of Degenerated Nerve: Report of Cases and Experimental Data. E. Sachs and J. Y. Malone, St. Louis.—p. 58.
*Therapy in Neurosyphilis; Intraspinal Therapy. W. F. Schaller and H. G. Mehrtens, San Francisco.—p. 89.
Significance of Biologic Reactions in Syphilis of Central Nervous System. D. J. Kaliski and I. Strauss, New York.—p. 98.

Prognosis of Involutional Melancholia.—The results obtained by Hoch and MacCurdy in a series of sixty-seven cases in which the final outcome was determined in all but one case, cause them to conclude that patients with involution melancholia recover unless they show as dominant symptoms: Marked insufficiency of affect, peevish or auto-erotic behavior, or ridiculous hypochondriac delusions which usually are concerned with the alimentary tract. These prognostically bad symptoms may be present for a short phase of the psychosis in women at the menopause without their prejudicing the outlook for recovery. All patients who eventually recover show some improvement within four years after the onset. The others run a chronic course or die unimproved.

Cistern Puncture in Spinal Subarachnoid Block.—By the use of combined cistern and lumbar puncture, Ayer says it is possible not only to obtain fluid above and below a supposed cord lesion, but also to analyze the mechanical factors involved in the flow of the fluid, and thereby estimate the permeability of the subarachnoid space. Where obstruction has been demonstrated by this means, an adequate explanation has been found in seventeen of eighteen cases.

Papilledema in Meningo-Encephalitis.—Five cases are cited by Kennedy. None of them has the general coloring usually associated with epidemic encephalitis, but the fact that they have come to notice during the period of incidence of that disease and were known before that time warrants caution about asserting that the two conditions are entirely unrelated. These patients all had evidence of systemic infection, as shown by the presence of a changed blood picture, fever and general malaise. The onset was acute—in some cases sudden, with headache serving as an inadequate warning of trouble to come. In all, a period of stupor was followed by one of excitement or disorientation, which lasted only a few days in most instances, to be followed, as a separate episode, by focal cerebral palsy-hemiplegia, hemianopia, aphasia or cranial nerve inadequacy. The rushing onset of optic neuritis late in the illness, synchronizing with amelioration of symptoms previously acquired, and its rapid amelioration in turn, are phenomena which must surely depend, for their production, on sudden blockings of intraventricular drainage by meningitic exudate, and for their disappearance, on a reconstitution of a normal fluid mechanism.

Treatment of Neurosyphilis.—Intravenous and intramuscular therapy caused symptomatic improvement in the majority of cases treated by Schaller and Mehrtens. Serologically only 19 per cent. cleared up entirely. It was more efficacious in the meningeal, vasculomeningeal and diffuse types. Intraspinal medication was superior to the intravenous and intramuscular methods in its effectiveness in clearing up the spinal fluid. Forty-eight per cent. of the cases became clear through the use of the intraspinal methods as compared to 19 per cent. following the intravenous method. The most useful field for intraspinal therapy is that of the meningoparenchymatous types, including tabes. However, patients with optic atrophy and with tabes without meningeal reaction received no benefit. Patients with parenchymatous lesions (including paresis) did poorly, but 25 per cent. of the cases thus trated cleared up clinically and serologically. A remission, at least, was effected. Massive rectal injections of neo-arsphenamin (4 gm.) may be substituted profitably for arsphenamin given intravenously in intradural medication when intravenous injection is impracticable. In the treatment of the individual case of neurosyphilis, it would, therefore, seem proper to begin with intensive intravenous and intramuscular medication, particularly in vascular, meningovascular and diffuse lesions. Failure to reduce spinal fluid findings to negative after a thorough trial should suggest the advisability of using more intensive methods. Drainage, combined with intravenous injections, again should be the procedure of choice when the facilities for more complicated methods are lacking or when symptoms of increased spinal fluid pressure are distressing. The Swift-Ellis, Ogilvie or Byrnes method should be reserved for cases resistant to the foregoing efforts. These resistant cases will be found particularly in tabetic patients. Patients with optic atrophy and neurosyphilis without cerebrospinal fluid reaction receive no advantage from intraspinal medication. Patients with inadequate veins can profitably receive the arsenic in the form of massive rectal injections of neo-arsphenamin.

Boston Medical and Surgical Journal

Dec. 29, 1921, **185**, No. 26

Surgical Treatment of Acute and Chronic Pancreatitis. F. B. Lund, Boston.—p. 771.
*What May Be Expected from Sanatorium Treatment? V. Y. Bowditch, Boston.—p. 776.
Two Different Views of Stammering. E. Tompkins, Pasadena, Calif.—p. 780.
*Basal Metabolism in Myelogenous Leukemia and Its Relation to Blood Findings. A. H. Gunderson.—p. 785.

Sanatorium Treatment of Tuberculosis.—Bowditch is convinced that sanatorium treatment in a properly regulated institution is one of the vital factors in the whole field of efforts to eradicate tuberculosis; an adjunct to every other possible means that can be furnished for its cure and prevention.

Basal Metabolism in Myelogenous Leukemia.—The results of Gunderson's observations in nineteen cases indicate that the basal metabolism in myelogenous leukemia bears a relation particularly to the number of immature white cells in the blood stream, regardless of the total leukocytosis. The highest values for the basal metabolism are usually found in cases with very high white counts and many myelocytes, or in cases showing high percentages of myeloblasts. Both of these findings probably signify great activity of the leukopoietic tissue, and the basal metabolism determinations may be considered as indices of this activity.

Jan. 5, 1922, **186**, No. 1

*Spinal Accessory Paralysis Following Neck Dissections. F. H. Lahey and H. M. Clute, Boston.—p. 1.
Recurrent Renal Calculi. J. D. Barney, Boston.—p. 9.
Experiences with Radium. G. C. Wilkins, Manchester, N. H.—p. 14.
Practice of Medicine in Massachusetts. Discussion of Law Governing Registration of Physicians. B. L. Young.—p. 18.

Spinal Accessory Paralysis Following Neck Dissections.—In undertaking neck operations for lesions not necessarily fatal, Lahey and Clute believe that the loss of function secondary to spinal accessory paralysis must always be considered of serious consequence, limiting power and motion as it does; and of possible occurrence, first, because there are instances in which it is practically impossible to preserve the nerve and remove the diseased foci, and second, because interruption in conductivity may follow even when the nerve has been preserved. It is their conviction that if one is to undertake neck dissections of the type spoken of above, he should familiarize himself thoroughly with the course and relations of the spinal accessory and second, third, fourth and fifth cervical nerves, and take meticulous pains for their preservation. Among 132 cases investigated there were twelve cases of paralysis, or 26.08 per cent.

California State Journal of Medicine, San Francisco

January, 1922, **20**, No. 1

Prolapse of Uterus with Rectocele and Cystocele; and End Results of Various Operations. A. B. Spalding, San Francisco.—p. 2.
Case of Extrapleural Thoracoplasty. H. A. Johnston, Anaheim.—p. 4.
Urinary Pus Cell Count. L. J. Roth, Los Angeles.—p. 5.
Treatment of Goiter. C. L. Hoag, San Francisco.—p. 6.
*Laboratory and Clinical Study of Bactericidal Action of Solutions of Radium Emanation. J. A. Marshall, San Francisco.—p. 8.
*Missing Link in Operative Technic. P. Campiche, San Francisco.—p. 10.
Improvement Following Tonsillectomy Clinically Expressed. H. H. Lissner, Los Angeles.—p. 11.
Tic Douloureux. H. C. Naffziger, San Francisco.—p. 13.
Plastic Surgery in and About Eyelids. R. J. Nutting, Oakland.—p. 15.
Diagnosis and Treatment of Intracranial Hemorrhage of New-Born—Report of Case. E. B. Towne and H. K. Faber, San Francisco.—p. 17.
Ovarian Autotransplantation. F. R. Girard, San Francisco.—p. 21.
*Chronic Tuberculosis in Early Infancy. R. L. Ash, San Francisco.—p. 27.
Nephrectomy in Hunchbacks—Report of Two Cases. C. D. Lockwood, Pasadena.—p. 29.

Bactericidal Action of Solutions of Radium Emanation.—Marshall's work was done on infected teeth. He used Ringer's solution for a vehicle after it had been rendered radioactive by crushing in it a capillary tube containing a known quantity of radium emanation. Favorable results are reported.

Lack of Nurses.—Campiche refers to the lack of nurses properly trained to assist at major operations.

Chronic Tuberculosis in Infant.—Ash's patient was first seen when 6 months old for difficulty in breathing. The child died at the age of 2 years and 1 month. The mother died of pulmonary tuberculosis when the infant was 4 months old. She had nursed her for the first six weeks of her life; then the child was removed from the home environment. The correct diagnosis was not made until a few months before the child's death. The necropsy disclosed a chronic pulmonary

tuberculosis with cavity formation in left upper and right middle and lower lobes, with a diffuse distribution of conglomerate tubercles throughout the remainder of the lung; bilateral chronic adhesive pleurisy; bilateral cervical adenitis; acute and chronic tuberculous ulcers of ileum; caseous mediastinal and mesenteric lymph nodes; isolated conglomerate tubercle of the left kidney; tuberculous osteomyelitis of right tibia and fibula; tuberculosis of the tarsal bones of right foot with sinus formation; tuberculous necrosis of lower end of humerus and upper end of radius and ulna with involvement of the joint.

Journal of Cancer Research, Baltimore

April, 1921, **6**, No. 2

*Study of Lipomyxosarcoma: Origin of Fat Cell. V. C. Jacobson, Boston.—p. 109.
Parabiosis and Tumor Growth. I. Kross, New York.—p. 121.
*Protein Content of Whole Blood and Plasma in Cancer. R. C. Theis, New York.—p. 127.
Problems in Cancer Research. M. T. Burrows, St. Louis.—p. 131.
*Influence of Heredity in Determining Tumor Metastases. Incidence and Inheritability of Spontaneous Tumors in Mice. M. Slye, Chicago.—p. 139.

Origin of Fat Cell.—Jacobson believes that the fat cell and the fibroblast (considering the mucous connective tissue cell as a modified fibroblast) are very closely related and that the hypothesis that the fat cell is derived from the fibroblast is to be considered favorably.

Blood Proteins in Cancer.—Theis asserts that proteins of the blood plasma are neither decreased nor increased in cancer cases as compared with other hospital patients.

Influence of Heredity in Determining Tumor Metastasis.—The studies made by Slye on the metastatic behavor of spontaneous tumors demonstrate that in any given strain the metastatic tumors (where there are any) tend to occur in exactly the same organs in which the primary tumors of that strain occur. In certain strains, there is a tendency for tumors to metastasize in certain organs; whereas in other strains, tumors of the same type in the same organ, even where they are of older and of larger growth, fail to metastasize into those organs. Tumors do not even invade by extension the organs from which primary and secondary neoplasms have been eliminated by heredity. Individuals with secondary tumors in any given organ, seem to be as potent as individuals with primary tumors in the same organ, to transmit by heredity, primary tumors in that organ. Therefore, heredity is a strong factor in determining not only where the primary utmors of a strain shall occur, but also where the secondary tumors shall occur and in determining what organs of a strain shall yield to the invasion of leukemia and pseudoleukemia. The thing which is transmitted in the heredity of cancer is the tendency of an organ or organs to yield to cancer. The tendency to sarcoma, carcinoma, adenoma, etc., segregates out and is transmitted as such. There is a specificity of tissue type, from organ to organ in a strain, which will make these organs react in a given way to a given type of irritation. It is, therefore, possible for ancestry to transmit to its posterity every possible combination of the neoplastic or leukemic tendencies which they carry either actually or potentially. Heredity of a specific type of organ tissue is here shown to be the fundamental influence in determining the incidence and location of secondary tumors and of leukemia and pseudoleukemia, just as it is in determining the incidence and location of primary neoplams.

Journal of Industrial Hygiene, Boston

January, 1922, **3**, No. 9

Dust in Printers' Workrooms. C. B. Rees.—p. 257.
Influence of Industrial Noises. D. J. Glibert.—p. 264.
Rehabilitation of Employees: Experience with 1,210 Cases. F. S. Kellogg, Pittsburgh.—p. 276.
Trinitrotoluene Poisoning—Its Nature, Diagnosis and Prevention. C. Voegtlin, C. W. Hooper and J. M. Johnson.—p. 280.

Journal of Parasitology, Urbana

December, 1921, **8**, No. 2

Chilomastix Intestinalis Kuczinski. L. Leiva, Manila, P. I.—p. 49.
Common Infusion Flagellate Occurring in Cecal Contents of Chicken. C. Uribe, Boston.—p. 58.
*New Human Trematode (Heterophyes nocens) from Japan. W. W. Cort and S. Yokogawa, Baltimore.—p. 66.
Studies on Microsporidia Parasitic in Mosquitoes. II. On Effect of Parasites on Host Body. R. Kudo, Urbana, Ill.—p. 70.
Phases in Life History of Holostome, Cyathocotyle Orientalis Nov. Spec., with Notes on Excretory System of Larva. E. C. Faust, Pekin, China.—p. 78.
*Effect of Poison of Tarantulas. W. J. Baerg, Fayetteville, Ark.—p. 86.
Unusual Form of Scabies (Megninia gallinulae Buchh) in Fowls. A. B. Wickware, Ottawa, Can.—p. 90.

New Human Trematode.—*Heterophyes nocens* Onji and Nishio is found in the middle part of the small intestine of man. It is known only from two villages, Onoda and Takachiho, in the Yamaguchi province of Japan. Its eggs were found in thirty-one out of 168 fecal examinations made from the inhabitants of these villages. In the intestine the flukes were found between the villi and sometimes attached to the mucous membrane near the bases of the villi. The structure of the adult of this species is similar to that of *Heterophyes heterophyes* (Looss), which has been known for many years as a parasite of man and other animals in Egypt. The eating of raw fish, especially of the species *Mugil cephalus*, is a common habit in the two villages where *H. nocens* were endemic. Examination of this fish showed the presence of a common encysted agamodistome which is the larval stage of the species. Experimental animals were infected with *H. nocens* by feeding them with fish containing these encysted larvae.

Effect of Tarantula Poison.—Experiments on animals and on himself have convinced Baerg that normally the bite of a tarantula is not dangerous to man, and that even a full dose of the poison would probably not produce any very serious results. Neither the pig nor rat used showed any evidence of being poisoned. Baerg allowed himself to be bitten twice and noted no effects, not even local swelling. The tarantula used was a full grown female whose poison apparatus was in good working order.

Michigan State Medical Society Journal, Grand Rapids

January, 1922, **21**, No. 1

*Luminal Treatment of Epilepsy. J. M. Stanton, Detroit.—p. 1.
Perforating Gastric Ulcers. V. L. Tupper, Bay City.—p. 5.
Glaucoma. R. S. Watson, Saginaw.—p. 9.
Treatment of Diphtheria Carriers with Mercurochrome or Gentian Violet. U. Estabrook and A. R. Lincoln, Detroit.—p. 13.
Tuberculoma of Cerebellum. C. McClelland, Detroit.—p. 15.
Examination of School Children in Grand Rapids, Michigan. F. P. Currier, Ann Arbor.—p. 16.
Case of Dieulafoy Ulcer of Stomach. C. Kennedy, Detroit.—p. 19.
Ultraviolet Ray Therapy—Its Application in Nose, Throat and Mouth Affections. L. C. Donnelly, Detroit.—p. 23.
Mitral Stenosis—Study of Sixty-Two Cases. W. J. Wilson, Detroit.—p. 25.
Progress and Promise in New Roentgen-Ray Treatment of Cancer. J. T. Case, Battle Creek.—p. 28.

Luminal in Epilepsy.—One hundred epileptics have been given luminal by Stanton. In practically all cases there has been a diminution in either the number or severity of the seizures, and in many instances the seizures have disappeared. Luminal accompanied by bromids in the early stages of the treatment has given better results than luminal alone.

Nebraska State Medical Journal, Norfolk

January, 1922, **7**, No. 1

Epidemic Encephalitis. F. E. Coulter, Omaha.—p. 1.
Tic Douloureux in Relation to Latent Maxillitis. H. B. Lemere, Omaha.—p. 8.
Fat Embolism. C. O. Rich, Omaha.—p. 14.
Problem of Nutrition in Children of School Age. W. O. Colburn and E. V. Wiedman, Lincoln.—p. 17.
Alkalis in Acidosis. F. Clarke and A. Dow, Omaha.—p. 21.
Eclamptic Threshold. A. D. Munger, Lincoln.—p. 24.
Hearing with Eyes. E. B. Kessler, Omaha.—p. 26.
Surgical Principles of Mouth. A. D. Davis, Omaha.—p. 27.

New York State Journal of Medicine

December, 1921, **21**, No. 12

*Hydronephrosis as Gynecologic Problem; Influence of Nephrectomy on Subsequent Pregnancy. A. Morse, New Haven, Conn.—p. 437.
Abdominal Pregnancy: Two Cases. W. Ward, New York.—p. 441.
Maternity Hospital as Teaching Center. P. T. Harper, Albany, N. Y.—p. 443.
Pediatrist and Maternity Hospital. R. S. Haynes, New York.—p. 446.

Treatment of Acute Otitis Media in Children. S. V. Haas, New York.—p. 450.
Tumors of Bladder. J. N. Vander Veer, Albany.—p. 454.
*Preventable Diseases of Adult Life. E. L. Fisk, New York.—p. 459.
Relation of State Health Department to General Practitioner. M. Nicoll, Jr., Albany, N. Y.—p. 466.
Universal Military Training: Medical Aspect. D. Bovaird, Clifton Springs.—p. 470.

Influence of Nephrectomy on Subsequent Pregnancy.—From the standpoint of prognosis in the event of a future conception, nephrectomy in the child-bearing period, Morse says, is of peculiar significance. In general, the outcome in a subsequent pregnancy is favorable, provided gestation proceeds normally. However, since the remaining kidney may be unable successfully to eliminate the waste products of both mother and fetus, constant supervision throughout pregnancy is necessary. If signs of toxemia appear such as albuminuria, a decreased urinary output or hypertension, the pregnancy must be ended by the method appropriate to the individual case.

Preventing Diseases of Adult Life.—Fisk urges that preventive, or rather constructive, medicine should be more thoroughly taught in medical schools. Every graduate in medicine should be equipped not only to make a fundamental physical survey, regardless of his interest in any specialty, but he should be saturated with these fundamental principles which will stimulate him to more enthusiastic cooperation with the demand on the part of the general public for physical inspection and counsel on how to live. Not only schoolchildren, but adults, require to be educated on the value of periodic physical overhauling and hygienic measures, as well as prompt medical, surgical or dental treatment for the correction of defects. The life insurance companies can afford to extend to their policyholders this privilege of periodic physical examinations without charge, as the resultant lower death rate will undoubtedly defray the cost, and the medical profession can afford to cooperate in making these examinations on a moderate basis of cost, inasmuch as the results will be wholly in the interest of scientific medicine. Fisk also urges the creation of a national department of health to coordinate all activities for physical education of schoolchildren and related measures.

New Orleans Medical and Surgical Journal

January, 1922, **74**, No. 7

Factors Influencing Rate of Mortality in Surgery of Thyroid. J. M. Batchelor, New Orleans.—p. 468.
Diagnosis and Treatment of Perforating Gastric Ulcer, Report of Two Cases. L. L. Wilson, Alexandria.—p. 473.
*Some Causes and Some Results of Chronic Intestinal Toxemia. A. Eustis, New Orleans.—p. 479.
Diabetes and Pregnancy. I. I. Lemann, New Orleans.—p. 492.
Management of Smallpox Outbreak. J. Callan, New Orleans.—p. 501.
Acute Osteomyelitis. I. Cohn, New Orleans.—p. 505.
Diffuse Gonococcal Peritonitis; Report of Case. E. A. Ficklen, New Orleans.—p. 518.
Specific Treatment of Malaria. C. C. Bass, New Orleans.—p. 521.
Necrosis of Skull with Resulting Meningocele; Repair by Tibial Transplant. I. T. Nix and J. M. Perret, New Orleans.—p. 529.

Causes of Chronic Intestinal Toxemia.—Eustis asserts that certain cases of intractable intestinal toxemia may be due to intestinal stasis from an anatomic abnormality, which can be relieved only by surgical measures. Some cases of chronic intestinal toxemia may present symptoms of hyperthyroidism, which symptoms are relieved by overcoming the intestinal toxemia. Intestinal toxemia may be the cause of an albuminuria and even of symptoms of uremia, relief of which is complete after control of the intestinal toxemia. Severe pyorrhea may be the cause of an intestinal toxemia, and indirectly the predisposing cause of asthmatic attacks. Illustrative cases are cited.

Rhode Island Medical Journal, Providence

January, 1922, **5**, No. 1

Acute Appendicitis. C. O. Cooke, Providence.—p. 175.
Surgery in Diabetics. G. W. Gardner, Providence.—p. 177.
Thyroid Disease and Its Treatment. F. H. Lahey, Boston.—p. 179.

Southern Medical Journal, Birmingham, Ala.

January, 1922, **15**, No. 1

Southern Pediatrics—Retrospective and Prospective. W. A. Mulherin, Augusta, Ga.—p. 1.
Teaching of Neurology, Psychiatry, Psychopathology and Their Relation to Other Specialties. T. A. Williams, Washington, D. C.—p. 8.
Our Problems. O. H. McCandless, Kansas City, Mo.—p. 17.
Roentgenologic Diagnosis of Gastric Cancer. R. D. Carman, Rochester, Minn.—p. 20.
Treatment of Acne by Roentgen Ray. C. Swanson, Atlanta, Ga.—p. 27.
Malaria Control. J. M. Swan, Rochester, N. Y.—p. 30.
Relation of Bacterial Count in Milk to Diseases in Children Consuming It. J. R. Snyder, Birmingham, Ala.—p. 33.
Ideal Obstetrician. G. C. Mosher, Kansas City, Mo.—p. 38.
Modification of Young's Perineal Prostatectomy. A. J. Crowell, Charlotte, N. C.—p. 45.
Differential Diagnosis Between Kidney and Intra-abdominal Lesions. J. R. Caulk, St. Louis.—p. 49.
*Simple Procedure for Radical Cure of Large Vesical Diverticula. J. T. Geraghty, Baltimore.—p. 54.
Some Observations on Radical Mastoid Operation. J. H. Foster, Houston, Texas.—p. 58.
Relationship of Oculist and Aurist to Group Medicine. R. H. T. Mann, Texarkana, Ark.-Tex.—p. 62.

Cure of Vesical Diverticulum.—It is a well-known fact that the removal or destruction of the lining membrane of a cyst or diverticulum is followed by the obliteration of the sac. The application of this principle suggested itself to Geraghty for the handling of large vesical diverticula whose position was such as to make their removal impossible or extremely difficult.

Surgery, Gynecology and Obstetrics, Chicago

January, 1922, **34**, No. 1

*Relative Merits of Resection and Gastro-Enterostomy in Treatment of Gastric and Duodenal Ulcer. F. DeQuervain, Berne, Switzerland.—p. 1.
*Benign Tumors of Stomach: Report of Twenty-Seven Cases. G. B. Eusterman and E. G. Senty, Rochester, Minn.—p. 5.
Interstitial Pregnancy: Two Cases. C. Daniel, Bucarest, Roumania.—p. 15.
*Essential Hematuria. C. S. Levy, Baltimore.—p. 22.
*Obstetric Paralysis of Peroneal Nerve. A. Whitman, New York.—p. 32.
Congenital Occlusions of Intestines: Multiple Atresia of Jejunum. D. L. Davis and C. W. M. Poynter, Omaha.—p. 35.
*Perforations of Esophagus: Report of Case of Transpleural Esophageal Fistula. M. Ballin and H. C. Saltzstein, Detroit.—p. 42.
Pseudohermaphroditismus Masculinus Internus. D. W. MacKenzie, Montreal.—p. 51.
*Sarcoma of Prostate. W. W. Townsend, Burlington, Vt.—p. 55.
Uteroplacental Apoplexy (Hemorrhagic Infarction of Uterus) in Accidental Hemorrhage. P. Willson, Washington, D. C.—p. 57.
Treatment of Hip Joint Disease. J. E. Fish, Canton, Mass.—p. 79.
Clinical Aspect of Tendon Transposition. M. A. Bernstein, Chicago.—p. 84.
*Mammoth Ovarian Tumor. J. W. Ward, San Francisco.—p. 91.
*Technic of Radium Treatment of Cancer of Prostate and Seminal Vesicles. H. H. Young, Baltimore.—p. 93.
Results in One Hundred Cases of Cancer of Prostate and Seminal Vesicles, Treated with Radium. C. L. Deming, Baltimore.—p. 99.
Short Circuit of Vas Deferens. K. P. Moran, Portland, Ore.—p. 119.
*Tetanus Complicating Diabetic Gangrene. W. Walters, Rochester, Minn.—p. 122.

Merits of Resection and Gastro-Enterostomy in Gastric and Duodenal Ulcer.—DeQuervain asserts that the operative mortality after gastro-enterostomy in this series was 6.5 per cent.; after radical operation, 7.7 per cent. In addition, there are two late deaths after gastro-enterostomy, one from renewed bleeding from the ulcer, the other from perforation of an ulcus pepticum jejuni. The relatively high operative mortality after gastro-enterostomy, DeQuervain says, is dependent on the facts that the stringent rules he has adopted in selecting cases for operation exclude the mild cases of ulcer, and that moderately severe cases are often operated on by resection, so that gastro-enterostomy has been done in a great number of bad cases. The most important causes of death—and really three fourths of the true postoperative deaths are due to lung complications—are emboli, pneumonia and lung gangrene. The statistics from DeQuervain's clinic confirm the old conception that a good share of patients who suffer, following operations on the stomach, with so-called pneumonia, are in reality suffering from a process embolic in nature. In three cases the causes of death were, respectively, bleeding from the existing ulcer, a simple heart failure, and the failure of the suture to hold in a Billroth I operation. Because of the danger of peptic ulcer following operation, and because of repeated bleeding from the primary ulcer, DeQuervain has abandoned schematic gastro-enterostomy and leans more toward resection. He says that 90 per cent of ulcer recurrences, peptic ulcer and other disturbances, occur

in the first four years after operation, so that statistics which depend on results reported earlier than four years after operation are apt to show too favorable results. Simple gastroenterostomy produces in all forms of gastric ulcer about the same early results—somewhat more than four-fifths cure or improvement approximating cure. Observations made over longer periods and including all cases show for gastroenterostomy for all types of gastric ulcer, a cure or improvement in 75 per cent. of cases. In ulcers at a distance from the pylorus the average results are no less favorable than in those at the pylorus. Radical methods, irrespective of interval, show results similar to those in gastro-enterostomy at early period, with a cure in about 80 per cent.

Benign Tumors of Stomach.—Benign tumors of the stomach constitute only 1.3 per cent. of all gastric tumors that have come to operation in the Mayo Clinic. Myoma and fibroma constitute the largest group, gastric polyposis the most infrequent. There is no characteristic syndrome and gastric chemism ranges from achylia to hyperacidity with hypersecretion. The majority of the tumors are situated in the region of the pylorus, the greater curvature, anterior and posterior walls. The smaller tumors are practically symptomless unless situated at the orifices or unless multiple. Common complications are recurring hemorrhage, which occurred in 37 per cent., and pyloric obstruction, which occurred in 25 per cent. Palpable mass, food retention or six-hour barium retention is less frequent than in gastric cancer.

Essential Hematuria.—The results of a clinical analysis of thirty cases diagnosed essential hematuria are presented by Levy. In more than one third of the cases the onset of the hematuria was in the fourth decade of life. That blood should appear in the urine for the first time in eight cases between the ages of 50 and 70 is interesting and important for ruling out the presence of renal or vesical tumor. The youngest individual in whom hematuria was noted for the first time was 6 years of age and the oldest 70 years. The bleeding occurred in only seven cases before the age of 30. The blood came from the right kidney in seventeen cases and from the left kidney in thirteen cases. In no cases were both kidneys involved, at least simultaneously. The results of operative procedures were not better than those of nonoperative methods. Nephrectomy is the only operation ever indicated, and that only as an emergency measure to save a patient from bleeding to death. Nonoperative methods have been used with success. It is suggested that the pelvis of the kidney be completely distended with fluid whenever intrapelvic injections are employed.

Obstetric Paralysis of Peroneal Nerve.—Whitman urges that in any case of paralysis below the knee occurring after prolonged, difficult labor or instrumental deliveries, the possibility of intrapelvic injury to the sciatic nerve should be borne in mind. Apparatus should be immediately applied, to prevent deformity, and to enable the patient to get about with the maximum facility. The prognosis as to ultimate recovery should be exceedingly guarded.

Perforation of Esophagus.—Ballin and Saltzstein report a case in which, following thoracotomy for pyopneumothorax, ingested food was discharged through the thoracic drainage opening. This esophageal fistula, after persisting for one year, healed spontaneously.

Sarcoma of Prostate in Advanced Age.—Townsend reports a case which occurred in a man aged 71 which he claims is the only one on record in a man of this advanced age.

Large Ovarian Tumor.—The tumor in Ward's case was a multilocular cystoma of the ovary which weighed 221 pounds, 14 ounces. The patient survived the operation less than one hour.

Radium Treatment of Cancer of Prostate.—Young claims for his technic that by it remarkable results are often obtained in apparently incurable and very extensive cases of carcinoma of the prostate and seminal vesicles. Extraordinary functional results are sometimes obtained with relief of pain, hematuria, difficulty and frequency of urination and attending discomforts. In some cases apparently radical cures have been obtained.

Tetanus Complicating Diabetic Gangrene.—The case recorded by Walters seems to demonstrate that tetanus may develop as a terminal infection in patients with diabetic gangrene, and that prophylacitic treatment is indicated in certain cases.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

British Medical Journal, London

Dec. 24, 1921, **2**, No. 3182

*Influence of Foods Rich in Accessory Factors in Stimulating Development in Backward Children. H. Chick and E. J. Dalyell.—p. 1061.
*Etiology of Rickets. C. B. Sweet.—p. 1067.
Diagnosis and Treatment of Perforated Duodenal Ulcer. F. K. Smith.—p. 1068.
*Blue Sclerotics and Brittle Bones, with Macular Atrophy of Skin and Zonular Cataract. O. Blegvad and H. Haxthausen.—p. 1071.
Difficulties in Diagnosis and Treatment of Hepatic Abscess. G. J. Langley.—p. 1073.
Sudden Death from Asphyxia Following Regurgitations of Semi-digested Food. E. Emrys-Roberts.—p. 1074.
Case of Peliosis Rheumatica. H. V. Jackson.—p. 1074.

Influence of Foods in Stimulating Backward Children.—The addition of antiscorbutic juices and of fats containing the fat soluble accessory factor was found by Chick and Dalyell to have a satisfactory result in stimulating growth and progress of nine very backward children, varying in age from 12 to 31 months. Eight of the nine children treated gave a history of previous attacks of definite scurvy, and two showed bony deformities which were probably of scorbutic origin. The cases studied indicate that the child's capacity for recovery is considerable when conditions of deprivation are rectified; the normal standard could be approached in from six to twelve months, even after twenty-four months of retardation in growth and progress.

Etiology of Rickets.—That rickets is due to a deficiency of fat soluble A vitamin in the diet, Sweet says, has not been proved. It is primarily due to a diet actually deficient in fresh animal food, probably suitable protein, or to a disturbed digestive condition which prevents the assimilation of the same. The striking metabolic changes in rickets are due secondarily to a deficiency of secretion of one or more of the endocrine organs and probably chiefly of the thymus gland. Confinement in young animals, with its attendant evils of lack of sunshine, exercise and cleanliness are important factors in increasing the severity of the disease.

Blue Sclerotics and Zonular Cataract.—The most interesting feature of the case cited by Blegvad and Haxthausen was the zonular cataract which is a hereditary affection, and which has not been described before in connection with Eddowes' complex of symptoms. Further, there is the particular change in the skin which, in its development and appearance, corresponds to a description given for the first time by Thibiérge, who called it athrophodermie érythémateuse en plaques à progression exentrique. A similar case, differing, however, in some points, was reported later by Yadassohn, who proposed the name anetodermia erythematodes. The name that has been used in most of the recent publications is, however, atrofia maculosa cutis.

Dec. 31, 1921, **2**, No. 3183

*Present Position of Treatment of Carcinoma of Cervix. W. F. Shaw.—p. 1101.
*Radical Abdominal Operation for Carcinoma of Cervix. V. Bonney.—p. 1103.
*Modern Operation for Cancer of Breast. R. Coombe.—p. 1106.
Gonorrhoea Treated by Electrolysis: Results in 500 Cases. C. Russ.—p. 1108.
*Treatment of Neglected Cases of Club Foot. W. P. Nicoll.—p. 1109.
*Pigmentation of Vermiform Appendix. E. M. Cowell.—p. 1111.
Thrombosis of Inferior Vena Cava: From Puerperal Sepsis. R. R. Kerr.—p. 1112.
Common Changes in Erythrocytes. R. Craik.—p. 1113.
Case of Aneurysm of Superficial Palmar Arch. E. O'G. Kirwan.—p. 1113.
Varicocele in Female. E. L. Rouse.—p. 1114.

Treatment of Cancer of Cervix.—In Shaw's opinion at the present time the best hope of complete cure of cancer of the cervix lies in the combination of radium with Wertheim's hysterectomy.

Efficacy of Wertheim Operation.—Bonney analyzes 100 cases in which an extremely radical Wertheim operation was done at least five years ago. Twenty patients died of the operation; thirty-three died of recurrent growth; three died of other disease; four were lost sight of and forty are well after five years. These cases also show that secondary carcinomatous deposit in the regional glands may exist at the time of the operation and yet a good result be obtained. Bonney points out also that a small proportion of recurrences, probably about 5 per cent. of the total number, do occur after five years. Therefore, an absolute cure should not be claimed for anything under seven years' freedom from recurrence. Out of the eighty patients who recovered from the operation forty-eight, or 60 per cent., had their life prolonged as the result of the operation. Perfect operative skill is of vital importance in securing these results. Bonney and his colleague, Berkeley, have reduced their operation mortality from 20 to 6 per cent. This improvement is said to be due to four factors: (1) spinal anesthesia, (2) the use of "violet green" to sterilize the vagina, (3) suturing the vagina, and (4) increased operative dexterity.

Operation for Breast Cancer.—Combe gives the technic of an operation for which he claims much. A large portion of the arterial supply to the breast is cut off quite soon by the early division of the vessels derived from the axillary artery; there is thus no waste of time due to frequent redivision of the branches of these vessels, and there is much less loss of blood from the operation as a whole. Care is taken to make the lower external flaps of the amputation first; these incisions are thus not obscured by blood trickling down. Shock is minimized by postponing to the end of the operation the severe mutilation involved in the actual amputation of the breast; moreover, this large area is kept quite warm during the slower dissection of the axilla by a dry thick flannel placed over it. Manipulations are minimized and disturbance of malignant cells thus avoided; cut lymphatics are turned downward and forward out of the wound, and so again the risk of infection is minimized. Especially there is no manipulation of the main tumor while the axilla is being dissected.

Operation for Club Foot.—Noall follows closely Rowland's operative technic, removing portions of the astragalus, os calcis, scaphoid and cuboid to remodel the foot.

Pigmentation of Appendix.—Cowell's patient was of a naturally dark complexion, showed a sallow skin, yellowish sclerotics, and a dirty tongue. The urine was normal; the actions contained bile. On pressure deep tenderness in the right iliac fossa was obtained, and Rovsing's sign was elicited. A diseased appendix was removed. It was of a slaty grey color, and when slit open the mottled pigmentation was very striking. Six months later the improvement in both the general appearance and symptoms of this patient was remarkable. Cowell suggests the probability that all these changes are closely related to avitaminosis, since all the pathologic conditions mentioned have been produced experimentally in animals by appropriate diets.

Journal of State Medicine, London

December, 1921, **29**, No. 12

Influence of Atmospheric Conditions on Industrial Efficiency. H. M. Vernon.—p. 353.
Administrative Control of Tuberculosis. J. Crocket.—p. 363.
Civic Control of Tuberculosis. R. V. Clark.—p. 372.

Journal of Tropical Medicine and Hygiene, London

Dec. 15, 1921, **24**, No. 24

*Exceptional Tropical Ulceration. R. W. Mendelson.—p. 317.
Treatment of Blackwater Fever. N. Crichlow.—p. 318.
Treatment of Trypanosomiasis by Various Methods. C. L. Trout.—p. 321.

Monilia in Leg Ulcer.—Three cases of "leg ulcers" are reported by Mendelson in which the exciting cause proved to be a monilia. These three patients had all resided at the seashore for a short time in order to miss the hot season of the city and while there contracted in various ways small and insignificant abrasions which after a short time developed into very small ulcers. A rich monilia growth was obtained on glucose-agar. The cardinal symptoms in these cases were constant pain, which is unusual in an ulcer that reaches a chronic stage, and swelling of the part affected. The application of ointments has a tendency to break down the edges of the ulcer and allow it to spread. Alcohol, if it is to be of any use, must be constantly applied, and although the secretions are lessened and the base of the ulcer becomes healthy looking, the granulations are hardened and do not grow, and as soon as the alcohol is stopped the secretions become profuse. Freezing with ethyl chlorid has a marked, but temporary effect, especially as regards the pain. The natural tendency is to complete cure in from two to three months with slight scar formation and pigmentation.

Lancet, London

Dec. 17, 1921, **2**, No. 5129

*Origin of Anginal Syndrome. C. Briscoe.—p. 1257.
*Spasmodic Respiratory Affections. J. P. Stewart.—p. 1261.
Nose, Throat and Ear Requirements of Airmen. D. Ranken.—p. 1263.
*Alimentary Infections in Chronic Arthritis. N. Mutch.—p. 1266.
Chronic Suppuration of Middle Ear. A. G. Wells.—p. 1268.
Normal Limit of Agglutination for B. Dysenteriae (Flexner) and Sensitiveness of Suspensions. A. D. Gardner.—p. 1269.
*Cases of Infected Knee Joint. P. Weatherbe.—p. 1271.
Case of Pyocele of Frontal Sinus. J. A. Gibb.—p. 1272.
Case of Syringomyelia. W. S. Robertson.—p. 1272.
Para-Urethral Gonorrhea. F. Chamberlain.—p. 1273.
Fatal Case of Delayed Neo-Salvarsan Poisoning. D. R. C. Shepherd.—p. 1273.

Origin of Anginal Syndrome.—While testing the action of accessory muscles concerned in respiration Briscoe noted that some of these muscles varied greatly in intensity of action and stress in different positions of the body, and in different circumstances. When under stress these muscles became tender, and when pressure was made on these tender muscles the pain produced was not always a mere local sensation, but was referred to wide areas very similar to those concerned in angina. Next he found that in some cases which had suffered from anginal type of pain, pressure on certain of these muscles produced pain like that of the attack, and finally in some cases of angina relief of tension in these muscles was followed by cessation of pain. It is quite evident that overfatigued muscles give rise to referred pain in distant areas. The upper thoracic respiratory mechanism is excessively active under the same conditions in which attacks of angina pectoris usually occur, and stress of this nature affords a better explanation for nocturnal attacks than does cardiac strain. The respiratory muscles of this region, when hypersensitive, are the last structures in the segment to lose local tenderness and the faculty of producing referred pains by pressure. When these muscles are hypersensitive and subjected to pressure the areas to which pain is referred correspond to those similarly affected in angina pectoris, and are frequently recognized. A phenomenon is demonstrated by Brisco which offers an explanation for the warning and sequence of spread of pain in angina pectoris. This is dependent on irritation of one of the expiratory muscles involved, and results in marked thoracic elevation. Treatment by alleviating the stress of these muscles has frequently—not always—been effective in relieving the pain without other treatment. Two attacks of angina pectoris have been observed as the result of irritation of respiratory muscles. Briscoe submits that the phenomena generally which accompany an attack of angina pectoris can equally well be explained on a respiratory hypothesis as on one of vascular origin. Further the age incidence of angina pectoris corresponds with that of ossification of the ribs and cartilages—a source of increased difficulty in respiration.

Spasmodic Respiratory Affections.—Stewart discusses hiccup, whooping cough, laryngismus stridulus, tetanus, rabies, epilepsy, chorea, paralysis agitans, hysteria and habit spasms.

Alimentary Infections in Chronic Arthritis.—An analysis of 200 cases was made by Mutch. Gout, venereal or tuberculous disease of the joints, and all cases of monarthritis have been excluded. Active sepsis was present in the throat and nose in 34 per cent. and around the teeth in 52 per cent., while infective streptococci were recovered from the feces of 84 per cent. Most of the infections are streptococcal, but a few are staphylococcal. In the present series the latter were only 4 per cent. of the whole. In about one third of the cases abnormal forms of the colon bacillus of the nonlactose fer-

menting or late lactose fermenting varities were found in association with the cocci. In the diffuse infections the streptococci are distributed along the alimentary tract in a definite pattern. In the pelvic colon they are much less numerous than the colon bacillus. In the ileocecal region they become more conspicuous and at the higher levels are usually present in pure culture. Streptococci predominate in the small bowel and the colon bacillus in the large bowel. The precise level at which transition takes place from streptococcal to *B. coli* dominance varies in different patients, probably on account of variations in the chemical nature of the contents of the bowel determined by differences in diet, peristalsis, and ferment efficiency. The point of transition is usually in the ileocecal region, but may be on either side of the ileocecal valve. The condition of the alimentary tract dominates the outlook in rheumatoid and osteo-arthritis. In the treatment the more accessible areas of infection in the jaws, throats, and intestines were treated surgically, and all the disorders of the digestive tract which had encouraged the development of chronic infection were dealt with. Autogenous vaccines proved of great value when used to supplement these measures. They were prepared from infective bacteria of all the principal zones of sepsis. Chronic infection frequently damages the thyroid gland. In the present series minor forms of subthyroidism were very common, while well defined myxedema or goiters of considerable size were seen in 14 per cent. of cases. There is an intimate association between immunity reactions and the functions of the thyroid gland. The dry extract of the thyroid was given in all such cases with great benefit to the joints. In the present series of cases, which have been followed for varying periods up to nine years, 89 per cent. show very great improvement or complete arrest. Of the failures one fourth had received very partial treatment only and could not be inoculated with vaccines.

Treatment of Infected Knee Joint.—When the diagnosis is septic knee joint, Weatherbe states, the treatment should be at the earliest possible moment a free opening of that joint by lateral incisions 4 to 6 inches long, on either side of the patella, followed by thorough irrigation of the joint, breaking down of all adhesions, manipulation by full flexion and extension, introduction of several rubber drainage tubes about the size of the little or big finger according to the size of the patient, application over the wounds of wet boric lint covered with oiled silk, and creation of continuous drainage of the joint by capillary action. The dressing should be changed once a day with removal of tubes, irrigation, and full flexion and extension. This treatment should be repeated daily until the wounds are healed. This method of treating septic knee joints apparently gives the patient the best chance regarding his life and the function of his limb.

Dec. 24, 1921, **2**, No. 5130

*Relationship of Uremia and Hyperpiesia. H. B. Shaw.—p. 1307.
Serologic and Morphologic Characteristics of Pneumococcus. A. L. Urquhart.—p. 1313.
Importance of Thoracic Respiration. W. A. Lane.—p. 1317.
Rationale of Wassermann Reaction. J. E. R. McDonagh.—p. 1319.
Sachs-Georgi Reaction in Syphilis. J. L. Brownlie.—p. 1322.
Tumor of Right Petrous Bone. T. Anwyl-Davies.—p. 1323.
Plague on Board Ship. W. W. Clemesha.—p. 1338.

Relationship of Uremia and Hyperpiesia.—Shaw endeavors to show that in hyperpiesia may be found all the manifestation of uremia; that hyperpiesia and uremia—so called—are due to the circulation of a blood poison (or poisons) which is not due to a fault of the kidney. The term uremia is a misnomer, useful clinically, but unsupported by experimental investigation. Shaw maintains that the relationship of uremia and hyperpiesia is easily settled. Hyperpiesia reveals in its advanced stages each and every manifestation met with in uremia. He believes that when a case presents so-called uremic manifestations, hyperpiesis is present, and if it is absent then at death cardiac hypertrophy will be found, showing that it had been present at one time or another. "Hyperpiesia" and "hyperpiesic," are words preferable to "uremia" and "uremic." They are infinitely more accurately descriptive. Many of the phenomena met with in the later stages of hyperpiesia, when symptoms of a so-called uremic character develop, are much more likely to be due to toxins present in the blood as the result of some inflammation, somewhere in the body, than to metabolites present in the blood in excess owing to the default of the kidney whose duty it is to extrude such bodies.

Medical Journal of Australia, Sydney

Nov. 26, 1921, **2**, No. 22

Industrial Hygiene as Applied to Munition Workers. E. E. Osborne.—p. 473.
Industrial Medicine. I. Blaubaum.—p. 481.
*Transfusion with Small Amounts of Mother's Blood in Melena Neonatorum. R. H. Swift.—p. 482.
Case of Retro-Bulbar Neuritis Associated with Symptoms and Signs of Disseminated Spinal Sclerosis. H. Armstrong.—p. 483.
Case of Anthrax. H. Brown.—p. 484.

Transfusion of Mother's Blood in Melena Neonatorum.—Two cases are reported by Swift. The first patient was one of twins. Forty-eight hours after birth, the boy vomited some dark blood and at the same time passed a large quantity of blood by the bowel. At 10 a. m. another large amount was passed, but he did not vomit. The child was collapsed, very white, with very feeble and slow respirations. Five cubic centimeters of the mother's blood were drawn into a syringe from a vein in her arm and injected into the longitudinal sinus or one of the sphenoidal sinuses at the posterior angle of the anterior fontanel. The child was given 0.6 gm. gelatin and 0.6 gm. calcium lactate in 30 c.c. water and had small quantities of pure whey by mouth. There was a slight hemorrhage from the bowel at 3:30 p. m. The child was fed on whey every two hours and was given 0.3 gm. calcium lactate every four hours. Two days later another large amount was passed by the bowel. The child was moribund. Five cubic centimeters of blood were again taken from the mother, but this time the blood clotted, so the same quantity of citrated blood was used and injected as before. The child did not have another hemorrhage. The second case was not so severe.

Dec. 3, 1921, **2**, No. 23

*Hereditary Optic Atrophy as a Possible Menace to Community. C. Morlet.—p. 499.
Plague Control in Other Countries. J. S. C. Elkington.—p. 502.
Palpable Radial Artery. G. C. Willcocks.—p. 504.
Note on Lumbar Puncture as Diagnostic and Therapeutic Measure. I. Morgan.—p. 507.
Amoebic Abscess of Liver. H. R. Dew.—p. 510.

Hereditary Optic Atrophy.—Morlet fears that this disease may become of dreadful import. He studied one family, in which there are four generations at present living—twenty-two males and thirty-one females. Of these twenty-two males, ten are boys under 19 years and twelve are adults. Of the twelve adults, only one has so far been spared his vision, the remaining eleven being all partially blind men. Eight of them became so about the age of puberty and three in later life, between the ages of 35 and 50. So that the one who has so far escaped, cannot, therefore, be declared safe, but may also become a victim at any moment. Of the thirty-one living females, seventeen are still children, while fourteen are adults. Of these fourteen adults, eleven are already married and nine of them have children. Only one female has ever suffered from the disease.

Archives des Maladies de l'Appareil Digestif, Paris

December, 1921, **11**, No. 6

*Dilatation of Esophagus. W. Oettinger and R. V. Caballero.—p. 369.
*Glycemia with Gastric Ulcer and Cancer. P. Le Noir, M. de Fossey and C. Richet, Jr.—p. 393.
*Mesenteric Thrombosis. F. Fernández Martinez.—p. 400.

Idiopathic Dilatation of the Esophagus.—Oettinger and Caballero conclude from their eight cases of this kind that the trouble is a congenital tendency to an abnormally large and long esophagus. The disturbances are mechanical and essentially chronic, with acute exacerbations as the stagnating food sets up esophagitis. The cardia has always been found normal, the esophagus with a sagging loop from its extra length, the muscle walls sometimes but not always hypertrophied. The esophagus may be stretched to a capacity up to 1,750 c.c. In Kinnicutt's case the length was 47.5 cm. The condition is similar to Hirschsprung's disease. Bard has demonstrated that the underlying cause of this visceral

giantism is that the tissues forming the walls of the organ are of an inferior grade, and stretch easily, without the normal elastic rebound. There is no basis, they say, for the assumption of a nervous or muscular spasm at the cardia or above as responsible for the dilatation. Medical measures are absolutely futile, and several surgeons have already reported successful intervention in a few cases. The only logical treatment is by anastomosis between the stomach and the overlong portion of the esophagus above the diaphragm.

Glycemia in Gastric Ulcer and Cancer.—Le Noir and his co-workers in continuing their research on insufficiency of the liver and kidneys in cases of gastric ulcer and cancer, found that test ingestion of 100 gm. of glucose in 250 c.c. of water, fasting, was followed by pronounced hyperglycemia only in cases with an active ulcer. In this group also there was hyperglycemia during fasting. Negative findings, however, are not conclusive. The findings from eighteen cases of ulcer and six of cancer are tabulated; they suggest a possible nervous origin for the glycemia. To the familiar symptoms of gastric ulcer we can now add the biologic data: symptoms of nervous irritation and symptoms from insufficiency of the liver and kidneys.

Mesenteric Thrombosis.—Fernández Martinez says that there are usually vague premonitory symptoms from the underlying abdominal arteriosclerosis, vague pains, and tendency to nausea, on a basis of arthritis, alcoholism or syphilis. Then suddenly comes agonizing pain like a stab wound, aggravated by movements and spreading throughout the abdomen, with syncopes. In a recent compilation of 184 cases, the pain was near the umbilicus in forty-five, in the right or left hypochondrium in ten each, and it spread throughout the whole body in thirteen. Sometimes the pain was localized in the lumbar region. Soon after the pain and vomiting, diarrhea appears and it may be blood-streaked. The combination of blood in vomit and blood in stools is instructive. The diarrhea soon subsides as the bowel becomes paralyzed, the intestinal paralysis being more extreme than with any other form of bowel obstruction. In a case reported in detail he was misled by the symptoms to diagnose peritonitis from perforation of an unrecognized ulcer. He did not at the time ascribe any diagnostic importance to the serous and bloody diarrhea for a few hours before the tympanism became extreme. While preparing for the emergency operation, the man died, and necropsy showed abdominal arteriosclerosis, with obliteration of a mesenteric artery and a gangrenous zone 6 or 8 cm. long in the corresponding bowel. The literature on the subject is discussed, and the warning is given to be on the lookout for such cases so that the necrotic zone can be resected in time.

Archives des Maladies du Cœur, etc., Paris

October, 1921, **14**, No. 10

*The Snap of the Diastolic Murmur. M. Roch.—p. 433.
*Radioplastic Cast of the Heart. G. G. Palmieri.—p. 440.

The Snap of the Diastolic Murmur.—Roch discusses the points where it is heard loudest, and the symptomatic import of the variations in these points. He has studied it in Bright's disease, in aortic incompetence and with nervous disordered heart action, and with emphysema, etc., hampering the right heart.

Radioplastic of the Heart.—Palmieri has coined this term to designate a method of making a plaster image of the heart from roentgenoscopic measurements. He describes the technic he has found best adapted for the purpose, and gives illustrations of a large number of casts thus made. The roentgen measurements are taken as the patient sits on a revolving stool 25 cm. from the screen; 55 cm. from the axis of the stool to the anticathode; 80 cm. from screen to anticathode. The measurements are always taken during the ventricular diastole and respiratory pause.

Archives Médicales Belges, Liége

July, 1921, **74**, No. 7

*Colobomatous Microphthalmos. G. M. van Duyse.—p. 593.
Phenolipoids and Antitoxic Chemotherapy. P. Pastiels.—p. 628.
Pathogenesis of Arterial Atheroma. H. Welsch.—p. 632.
Surgical Treatment of Ascites. G. Cambresier.—p. 640.

Colobomatous Microphthalmos. — Ten microphotograms accompany this article which was awarded the Alvarenga prize for 1920 by the Belgian Academy of Medicine. The bilateral microphthalmos was accompanied by a true cyst of the orbit and numerous malformations. Another male child with various malformations had been born to this couple.

Bulletin Médical, Paris

Nov. 12, 1921, **35**, No. 46

*Sclerosis of the Lung. P. Gastinel and P. Jacob.—p. 901.

Sclerosis of the Lung.—This anatomic and clinical study of sclerosis of the lung shows that syphilis alone is able to realize the clinical picture of any and every form of pulmonary sclerosis, although the form suggesting pneumonia is rare. The most common form is that with dilatation of the bronchi, so that some insist that syphilis is responsible for bronchiectasia in practically every case. A tracheobronchial syphilitic fibrous process frequently is accompanied by symptoms of mediastinitis. The symptoms from the lungs may be dominated by those from the bronchial stenosis. Another point to be borne in mind is that the tuberculous process in a syphilitic soil is apt to be of a sclerosis type, even when the syphilis is not directly responsible. This is common in children with inherited syphilis. The triad, apical sclerosis, enlarged glands at the hilus and emphysema at the base, with no signs of tubercle bacilli, was found in eighteen cases, and in thirteen of them the Wassermann reaction was positive, including five cases in which the patient had no suspicion of his infection with syphilis. The sclerosis may entail asthma secondarily. The asthma may subside and yield to disturbances from congestion in bronchi and alveoli, with dyspnea and bronchorrhea. This group of symptoms forms what has been called *asthme intriqué*, which might be translated interlocking asthma.

Nov. 26, 1921, **35**, No. 48

*Helminthiasis. E. Brumpt.—p. 943, etc.
*Idem. C. Joyeux.—p. 944, etc.

Helminthiasis.—This number of the *Bulletin* reviews the recent literature on varieties of helminths that affect man, the symptoms from them, differential diagnosis, treatment and prophylaxis, the subjects treated by different authors. Joyeux classes them by the organs they infest, and again by their geographical distribution. Brumpt shows by their zoological history the means by which we can ward off infestation with the different types of helminths. He remarks that the difficulty in exterminating the oxyuris is due to the fact that the itching it causes at the anus, with the resulting scratching, gets the ova under the finger nails, and in the morning they get from the finger nails into the food. The infection thus is being constantly renewed. He advises wearing tight drawers, to prevent direct scratching, and special care of the finger nails, cutting them short.

Dec. 3, 1921, **35**, No. 49

*Monilia Pneumonia. Assimis.—p. 969.

Dec. 10, 1921, **35**, No. 50

Dementia Praecox and Its Simulation. R. Benon.—p. 985.

Monilia Pneumonia.—In Assimis' case at Athens the symptoms suggested merely pleurisy, although the moniliasis process was in the lung of the man of 58, a farmer, previously healthy. Weakness, lassitude, a cough but little expectoration, an area of absolute dulness from the tip of the scapula to the base, and complete apnea in this area, remittent fever but no pain, were the elements of the clinical picture accepted as pleurisy with effusion although punctures at different points were negative. Nothing was done for the supposed pleurisy beyond puncturing and giving a tonic. At about the seventh month symptoms of extreme toxic action became evident and proved fatal. Possibly the punctures may have contributed to the increase in virulence.

Encéphale, Paris

September-October, 1921, **16**, No. 8

Sclerosis with Slow and Relapsing Course. André-Thomas.—p. 416.
The Intellectual Territories of the Brain. D. Anglade.—p. 423.
Pathologic Anatomy of Pineal Gland. M. Laignel-Lavastine.—p. 437.
Conc'n.

Mechanism of Clonus. P. Sollier.—p. 449.
Physiologic Sequence of Volitional Movements. Noica.—p. 451.
Genital Obsession in a Woman. H. Claude and H. Biancani.—p. 456.
Professional Imprint in Psychopathies. Chavigny and Cuny.—p. 463.

Journal d'Urologie, Paris

October, 1921, 12, No. 4

*Epididymitis in Gonorrhea. A. Lavenant.—p. 233.
*Hypernephroma of Kidney. Bégouin and Darget.—p. 261.
Annual Meeting of French Urological Association.—p. 267.

Epididymitis and Vaginalitis in Gonorrhea.—Lavenant discusses the bacteriology, pathogenesis and clinical aspects of these complications of gonorrhea. His experience indicates that secondary or associated infections are encountered in from 20 to 30 per cent. of all cases of gonorrhea, and that epididymitis does not develop unless the urethra contains evidence of secondary or associated infection. There seems to be a constant ratio between the bacteria in the urethra and those found in the epididymitis and in the vaginalitis effusion. The infection may induce pain and fever with little effusion, or the effusion may be extensive without pain or fever. In Fournier's statistics, the epididymitis generally developed between the eleventh day and fifth week, but in eighty-one cases, it was later than this, up to the fifth month. Lavenant gives the details of twenty-three cases; the streptococcus, staphylococcus, colon bacillus or enterococcus alone or two associated were found in the vaginalitis effusion, the gonococcus only in 25 per cent. Guinea-pigs inoculated with the effusion showed that the virulence was slight. The discovery of associated infection in the urethra may warn of possible complications of this kind.

Hypernephroma of the Kidney.—Bégouin and Darget, in commenting on the case described, warn that catheterization of the ureter may upset the balance temporarily so that functional tests may give misleading findings. Eight days at least should be allowed to pass before the Ambard formula can be applied with any expectation of reliability after the ureter catheter has been left in place for an hour or two. When withdrawn at once, the ureter catheter does not affect kidney functioning materially. All the functional findings in the case described, in a woman of 51, testified that nephrectomy was out of the question. But the kidney was removed, nevertheless, in December, 1920, and the woman was restored to complete health. The paraperitoneal route gave ample access for removal of the large tumor and the adipose tissue surrounding it. The capsule of the kidney seemed to be intact. The first symptom had been sudden, violent pain in the right flank in 1915.

Paris Médical

Nov. 26, 1921, 11, No. 48

Epochal Periods in History of Anatomy. A. Latarjet.—p. 409.
*Mishaps with the Arsenicals in Syphilis. L. Archambault.—p. 418.
Are Vaccines Equivalent? J. Marais.—p. 421.

Untoward By-Effects of Arsphenamin.—Archambault states that in his last forty-one cases of syphilis being treated with arsenicals, he had to keep 2 of the patients for a few hours after some of the injections, on account of the annoying by-effects of the drug. Another patient had a severe nitritoid crisis on the steps as he was leaving. Another fell unconscious on the street, and was brought back into the office by two passers-by. All these patients had borne the previous injections without harm. He used to keep a good amount of the drug on hand, but now buys it only as needed. It is his impression that these untoward effects are more common in persons with the inherited taint. Venesection in the ictus case did not bring the blood for several minutes, and consciousness was not regained for a full hour.

Revue de Chirurgie, Paris

1921, 59, No. 5

Hernia at Spigelius' Line. A. Augé and R. Simon.—p. 297.
Central Luxation of Femur. E. Delannoy.—p. 317.

1921, 59, No. 6

*Dilatation of Esophagus. L. Sencert and R. Simon.—p. 355.
Nonmalignant Intestinal Tumors. P. Brocq and J. Hertz.—p. 377.
Oral Sepsis and General Surgery. J. Tellier.—p. 390.
*Anastomosis of Gallbladder. X. Delore and P. Wertheimer.—p. 400.

Idiopathic Dilatation of the Esophagus.—Sencert and Simon ascribe this condition to a congenital malformation of the esophagus similar to that with megacolon, megarectum, etc. The tissues are either too weak to resist ordinary strain and thus stretch, or the esophagus is abnormally large. The disturbances date from childhood, but they develop insidiously and progressively until between 20 and 30 they become unbearable. The esophagus is not only too wide, it is also too long, as a rule, and gets kinked. The various procedures in vogue neglect this latter element in the clinical picture, and hence are liable to fail to insure a permanent cure. In a typical case described in detail in a young man, roentgenoscopy showed that the esophagus above the diaphragm was so long that it sagged into a loop. Through the laparotomy incision along the left costal arch, the esophagus was drawn down while the assistant held the liver out of the way. A segment of the esophagus, 8 cm. long, could thus be pulled down into the abdomen; there was not much hypertrophy. They fastened the esophagus with three stitches to the diaphragm, and made a longitudinal incision 4 cm. long in the cardia region, and closed it by suturing it transversely, in tiers. The young man left the hospital in two weeks, eating at will, free from regurgitation and dysphagia, and has had no further disturbance, except that after a hearty meal he drinks a swallow of water to aid in the complete evacuation of the esophagus. Roentgenoscopy shows that the esophagus is still dilated, but it forms a straight passage to the stomach and the contents pass slowly but completely into the stomach in the course of three minutes. The operation is thus a complete success.

Anastomosis Between Bile Ducts, Stomach and Intestine.—Delore and Wertheimer analyze a total of 3 cholecytocolostomies, 2 cholecystojejunostomies and 12 cholecystogastrostomies, with no mortality. The symptomatic benefit with the last mentioned is beyond question. The pruritus subsides and with it the jaundice, as a rule, and the progress of the cachexia is arrested. The complete cure in some cases showed that the diagnosis of malignant disease had been unfounded. Even when the cancer continued its progressive course, the operation gave temporary and often quite durable relief. The gallbladder has to be distended to some extent for effectual suture to the stomach, and hence the operation has to be reserved for the aged, the debilitated, and for cases in which access to the common bile duct is difficult. The anastomosis is generally made on the antrum, in the anterior wall, and suturing is preferred to a button except when haste is necessary.

1921, 59, No. 7-8

*Brachial Birth Paralysis. Froelich.—p. 419.
Shape of Appendix Segment of Intestine. G. Milhaud.—p. 451.
*Treatment of Perforated Gastric and Duodenal Ulcer. P. Uhlrich.—p. 467.

Brachial Birth Paralysis.—Froelich reviews the outcome in 10 cases of brachial paralysis in the new-born; 20 in very young children, and 7 in children between 10 and 15. He has never encountered but 3 cases in which the total paralysis of the arm was grave and there seemed no outlook for improvement. The total paralysis at birth generally heals without disturbance, but exceptionally it may entail a flail shoulder joint. Later there may be contracture, with displacement of the head of the humerus. Or there may be ankylosis of the head, or the arm may be shortened, the movements of the shoulder restricted; this may exist for years before it is detected. He discusses the treatment for each of these types, with instructive examples. The treatment for the new-born consists in immobilizing the arm in a position which frees the roots of the plexus from traction, and is antagonistic to the position entailed by the pathologic contracture. The arm should therefore be held in 90 per cent. abduction, the forearm flexed at a right angle, the hand extended, the hand and fingers in supination, as shown in one of the nine illustrations.

Perforated Gastric and Duodenal Ulcers.—Uhlrich tabulates the 31 cases he has found on record in which a perforated gastric or duodenal ulcer was treated by immediate transverse resection. Recovery was prompt and complete in all but 2 after the gastropylorectomy or duodenopylorectomy.

This magnificent series, he says, teaches that a perforated ulcer should be merely turned in and sutured, or else should be treated by the maximum transverse resection to thoroughly eradicate the disease process. Half-way measures are futile. It is not a mere casual coincidence that Gauthier and five other surgeons almost simultaneously decided separately to apply extensive transverse resection as the one logical measure under the circumstances. Their success has demonstrated the superiority of the method over all others except when conditions permit only the most rapid and harmless palliative operation. The extent of the ulceration, the rigid walls of the hard ulcer compelled the resection, and the results surpassed all expectations. The interval ranged from one hour to twenty-seven but in the majority from four to six hours. In one case that terminated fatally, the interval was thirty-six hours. The only other fatality was due to extraneous circumstances. In one of the cases the resected segment showed signs of malignant degeneration of the ulcer.

Schweizer Archiv f. Neurol. u. Psychiatrie, Zurich

1920, **7**, No. 2

*Characteristics of Hereditary Degeneration. K. Schaffer.—p. 193.
Development of the Reactions and the Plantar Reflex in the Prematurely Born and to the Age of Two. H. Bersot.—p. 212.— Conc'n. Vol. 8, p. 47.
Choroid Plexus in Organic Brain Disease. Kitahayashi.—p. 232.
*Anatomy of Optic Nerve Fibers. M. Minkowski.—p. 268. Conc'n.
*Epilepsy, Anaphylaxis and Dysthyroidism. V. M. Buscaino.—p. 304.
Trauma of the Skull and Korsakoff's Psychosis. R. Benon and R. Lebuche.—p. 316.
War Neurosis and Psychanalysis. A. v. Muralt.—p. 323.
Plantar Reflex and Lesions of Sciatic Nerve. H. Bersot.—p. 339.
The Steinach Operation. G. Hotz.—p. 344.

Hereditary Degeneration.—Schaffer presents evidence to demonstrate that the general pathologic histology of family diseases and inherited degeneration is determined by uniform embryologic changes in the central nervous system. Diseases of a familial hereditary type are not only clinically but anatomically alike. The type of disease is determined by the extent and the intensity of the histologic changes .

Comparative Anatomy of Optic Nerve.—Minkowski discusses the course, the terminals and the central representatives of the crossed and uncrossed optic nerve fibers in certain mammals and in man.

Epilepsy, Anaphylaxis and Dysthyroidism.—Buscaino found octahedral crystals of presumably protein origin in the thyroid tissue in 84 per cent. in thirty-nine persons with idiopathic epilepsy or other disease inducing convulsions. In sixty-one other persons with no history of convulsions they were found only in 15 per cent. This and other data presented sustain, he says, his assertions made in 1915 that the idiopathic epileptic seizure is an attack of anaphylaxis induced by abnormal proteins getting into the blood. He thinks that the source of these abnormal proteins is probably in the thyroid.

Archivio di Patologia e Clinica Medica, Bologna

October, 1921, **1**, No. 1

Differential Diagnosis Both a Science and an Art. G. Viola.—p. 3.
Artificial Pneumothorax from Standpoint of Pathologic Anatomy and the Clinic. A. Crosti.—p. 23.
*Pathogenesis of Anemia with Nephritis. R. Grignani.—p. 48.
Refractometry for Clinical Use. F. Schiassi.—p. 59.

The "Archivio."—This newly founded, fine journal aims to record the progress in internal medicine as an applied science. It is published by Cappelli of Bologna as a companion of the Italian *Archivio di Chirurgia*, and the editorial staff comprises Zoja, Viola and Schiassi. Each article is to be accompanied by a summary in French.

The Hemoglobin Metabolism with Kidney Disease.—Grignani presents evidence to show that there is some factor in nephritis which has an injurious action on the blood-forming apparatus. In eight cases described in detail this had induced grave anemia; in some it was of the pernicious type. There is no abnormal destruction of erythrocytes, but a reduction in the numbers produced. Inadequate nourishment may be responsible in some cases. The oligochromocytemia in nephritis may escape detection on account of the hydremia, but the numbers of erythrocytes in actual fact are below normal.

Policlinico, Rome

Nov. 28, 1921, **28**, No. 48

*Cesarean Section After Ventrofixation. P. Gaifami.—p. 1607.
Phenol in Treatment of Erysipelas. C. Arrigoni.—p. 1612.
*Treatment of Anthrax in Man. R. Monteleone.—p. 1613.
*Spasmophilia. C. Moschini.—p. 1616.

Dec. 5, 1921, **28**, No. 49

Arsenical Treatment of Nervous and Mental Disease. G. Bianchi.—p. 1645.
Cinchonin in Treatment of Malaria. A. Sanguinetti.—p. 1652.
Physiopathology of the Nasal Cavities. T. Mancioli.—p. 1653.

Drawbacks of Ventrofixation of the Uterus.—Gaifami has had to apply a mutilating form of cesarean section in five cases to overcome the evils entailed by ventrofixation of the uterus. He declares that ventrofixation is a long backward step in gynecology.

Anthrax in Man.—Monteleone extols the fine results of antianthrax serotherapy, as he witnessed it in thirty-five cases. His research has confirmed that the anthrax bacilli lurk in the tissues to the farthest limits of the edematous zone, and hence cauterization is not effectual as it cannot be applied over this entire zone.

Spasmophilia and Bronchotetany.—Moschini describes three typical cases to sustain his assertions in regard to a group of cases in children with symptoms of bronchopneumonia, capillary bronchitis or asthma, in which the necropsy findings reveal no anatomic lesions to correspond. The disturbance must be of a functional spasm nature. The group comes under the heading of bronchotetany, as part of the spasmophilic diathesis. The differential diagnosis can be based on the signs otherwise of manifest or latent tetany. The importance of exact differentiation is evident, as dropping milk from the diet may attenuate or cure the bronchotetany, even without other measures.

Revista Médica del Uruguay, Montevideo

November, 1921, **24**, No. 11

*Tuberculosis of the Skin in Uruguay. J. Brito Foresti.—p. 501.
*Fatal Chorea. Luis Morquio.—p. 527.
*Epithelial Cancer. C. Stajano and C. V. Nario.—p. 542.

Skin Tuberculosis in Uruguay.—Brito Foresti relates that the cutaneous manifestations of tuberculosis are rather rare in Uruguay forming only about 1 per cent. of skin diseases in general. Erythematous lupus is responsible for 60 per cent. and ordinary lupus for 15 per cent. of all the tuberculous skin manifestations. He summarizes the 229 cases he has encountered since 1896, classifying them under eight headings.

Fatal Chorea.—In the two cases described by Morquio, the girls of 14 and 11 were taken suddenly with intense chorea. Only the younger child had a history of rheumatism. The intense chorea finally subsided and paralysis followed, accompanied by fever, and this progressed to a fatal termination seven and three weeks after the first onset of the chorea. Necropsy showed superficial and diffuse encephalitis. In another case the chorea developed suddenly but this yielded after a few days to the clinical picture of lethargic encephalitis. Morquio discusses the connection between chorea and epidemic encephalitis, saying that there may be a chorea disease and a chorea that is merely a syndrome. He asks "Can cases of recurring chorea or chorea developing after a fright be explained as the flaring up of the latent virus of epidemic encephalitis?"

Factors in Epithelial Cancer.—Stajano and Nario urge the necessity for study of precancer lesions to throw light on cancer itself. They argue that the long continued irritation from a patch of leukoplakia, for instance, finally induces a neuritis, and the ascending inflammation reaches the trophic center in time. As the vitality of the trophic center declines, it loses its normal control over the tissues innervated by it, and anarchy in the tissue cells is liable to result. The injury with vulvar eczema, kraurosis, etc., is more and deeper than the visible lesions. These lesions are the results of the growing old of a certain area of the body. Senescence may be produced in a certain segment even when all the rest of the body is young and vigorous, and the precancer lesions develop in a segment of this kind. Their symmetrical arrangement sustains this conception. The trophic centers seem to suffer more the shorter the distance from the precancer lesions.

Revista de Psiquiatría, Lima

July-October, 1920, 3, No. 1-2

Association Tests in Children. V. Izcue.—p. 5.
Postoperative Dreams. N. Barsallo.—p. 9.
*Psychology of the Sick. H. Valdizan.—p. 19.
Psychology and Physiology from Medical Standpoint. Delgado.—p. 39.

Psychology of the Sick.—Valdizan begins his study of the psychology of the sick child by saying "From the United States of North America from which come so frequently so many and such fine suggestions for the psychiatrist, came not long ago an article that every physician should know and ponder. . . . I refer to the article by Patrick in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, Jan. 10, 1920, 'The Patient Himself.'" Valdizan discusses the child patient, and comments on the psychology of children in general and the influence on it of sickness.

Archiv für Verdauungs-Krankheiten, etc., Berlin

October, 1921, 28, No. 5-6

Nomenclature of the Stomach. F. Groedel.—p. 245.
*High Stenosis of Duodenum. H. Nick.—p. 265.
*Radiology of Duodenal Ulcer. T. Bársony (Budapest).—p. 275.
Casein Tests for Tryptic Ferment in Feces and Duodenal Juice. W. Schoppe.—p. 289.
The Pylorus in Relation to Peptic Ulcer. G. Kelling.—p. 317.
Roentgenology of Pylorospasm and Stenosis. Bauermeister.—p. 322.
*Pleuritis in Relation to Pain in Stomach. K. Rennen.—p. 328.
*Indications with Acute Hemorrhage from Stomach or Duodenum. H. Finsterer.—p. 337.

High Stenosis of the Duodenum.—Nick diagnosed in the two cases described stenosis of the pylorus, probably malignant, but the operation revealed stenosis of the duodenum, about 3 cm. below the pylorus, with periduodenitis from perforation of a gallbladder empyema into the duodenum in one case, and in the other, a hard ulcer that had involved the pancreas. In both cases there was ectasia and retention, with lactic acid and hypochlorhydria, but very little hypertrophy of the muscle.

Radiology of Duodenal Ulcer.—Bársony gives the contrast meal fasting, and insures the filling of the duodenum by blocking it with pressure from without. Among the points brought out by his research on the radiology of the duodenum is that spastic hour-glass contraction of the stomach is due to segmental contracture of the stomach itself, while the "cascade" shape of the stomach implies factors outside of the stomach, possibly an overlarge and heavy colon. The possibility of a duodenal ulcer should be borne in mind with this, as also with uncompensated stenosis that is not accompanied with vomiting at first. Symptoms from the right hypochondrium should suggest in women, gallstones, but in men, duodenal ulcer. Another point he emphasizes is that the pains with a duodenal ulcer occur usually in the afternoon at first, and not in the night until a later stage. With gallstones, the pains generally develop toward midnight, and they occur only at intervals of several days or weeks. With duodenal ulcer, they occur generally every day for a time and then after a longer or shorter pause reappear in the same way.

Pains in the Stomach with Pleurisy.—Rennen warns that when there is pain in the stomach for which no visceral cause can be discovered, above all, no blood in stomach content or stools, the pleura should be investigated before assuming an ulcer or gastric neurosis. Special search should be made for diaphragmatic pleuritis as an early manifestation of pulmonary tuberculosis. Roentgen-ray examination and a tuberculin test are indispensable. By this means much anxiety and work are spared both the patient and the physician, as specific treatment in an astonishingly short time will free the patient from his gastric pains.

Treatment of Acute Stomach and Duodenal Hemorrhage.—Finsterer urges immediate operation, and points to his latest series of sixteen cases of acute hemorrhage treated by resection without a fatality, except from diabetic coma in one case, although the interval was less than twenty-four hours only in three of the cases. He operates under regional, not general anesthesia, and uses only a 0.25 per cent. solution of procain. Resection cures the patient permanently, while internal treatment leaves him exposed to danger of perforation or deep arrosion hemorrhage. In one case perforation occurred just as the laparotomy was commenced, the twelfth hour after the hemorrhage. A second ulcer was found in this case, and the operation cured the patient permanently. He does not operate in every case; in six cases during the same period he did not regard operative treatment as indicated. These six patients were young girls, and there were no symptoms suggesting a chronic burrowing ulcer, and all recovered.

Deutsche medizinische Wochenschrift, Berlin

Nov. 3, 1921, 47, No. 44

Chemotherapeutic Antisepsis. III. Morgenroth et al.—p. 1317.
Virulence of Apathogenic Bacteria Enhanced by Chemical Substances. B. Lange and M. Yoshioka.—p. 1322.
Artificial Increase of Virulence by Lactic Acid in Experimental Mouse Tumors. P. Rostock.—p. 1323.
Electric Reactions of Pathologic Human Muscles. E. Rehn.—p. 1324.
Roentgen Dosage in Relation to Roentgen Burns. Kurtzahn.—p. 1326.
Suppuration in Nasal Sinus as Cause of Disease Below. Stepp.—p. 1328.
Typhoid-Like Ulcers in the Stomach. J. Seiffert.—p. 1329.
Chancroid Vaccine. G. Stümpke.—p. 1331.
Physiology of Sex Determination. T. Péterfi.—p. 1332. Cont'n.
Osteomyelitis and Acute Arthritis. G. Ledderhose.—p. 1333.

Deutsche Zeitschrift für Chirurgie, Leipzig

November, 1921, 167, No. 1-2

*Retrograde Incarceration of W Hernia. E. Pólya.—p. 1.
*Causes of Congenital Torticollis. A. Schubert.—p. 32.
Congenital Median and Lateral Fistulas in Neck. Blaesen.—p. 60.
*Nature of Hypertrophy of the Prostate. R. R. Niemeyer.—p. 65.
Fibromatosis of Mamma in Relation to Cancer. Lukowsky.—p. 81.
*Operation for Perforated Gastric Ulcer. W. Noetzel.—p. 116.
*Incarceration in Slit in Mesentery. A. Sohn.—p. 124.
*To Insure Continence of Artificial Anus. Kurtzahn.—p. 129.

Retrograde Incarceration.—Pólya adds 6 more cases to the 4 he recently published, and summarizes 6 others from Hungarian literature, which brings the total of cases of retrograde incarceration of a W hernia on record to 100 in accessible literature. He discusses the mechanism, and says that the correct diagnosis was made in 2 of his cases. The loop inside the abdomen was necrotic while the loop in the hernia was comparatively normal. The gravity of the general symptoms in comparison with the visible findings, and the brief duration of the incarceration are instructive. In 3 of his 10 cases the incarcerated hernia was at the umbilicus; it was in the inguinal region in 3 of 130 cases, while no instance was known in his 109 cases of incarcerated femoral hernia. The last loop of the ileum was always the one involved. By cutting around the hernia and drawing the whole out, without opening the sac, the retrograde loop was discovered. If gangrenous, the whole can be resected without opening the sac. Extensive resection was required in 4 of his 6 cases, with 2 deaths. In some of the cases, 369, 367 and 465 c.c. of the bowel had to be resected. Bowel functioning was fairly good thereafter, although the patients were poor and unable to follow any special diet.

Congenital Torticollis.—Schubert comments on the frequent hereditary character of congenital torticollis, and its combination with other embryologic defects. Recent reexamination of twenty operative cases has confirmed him in the belief that the primary cause is of central nervous origin, not from intra-uterine pressure.

Hypertrophy of the Prostate.—Niemeyer argues that the senile changes in other organs are in the nature of atrophy, not hypertrophy, as in the prostate. His study of thirty-five cases has convinced him that the hypertrophy is a compensating hyperplasia on the soil of senile involution. This conception of the hypertrophy as a reaction to senile involution throws light on tumor growth in general after middle age.

Perforated Gastric Ulcer.—In Noetzel's latest series of 26 cases, 2 died in the 14 cases in which the interval before operation was less than twelve hours; 4 of the 7 with interval up to twenty-four hours, and 4 of the 5 with an interval up to several days. In a number of the cases the perforation occurred without any symptom that had attracted attention to the stomach before. In such cases the patients were well nourished, and the outcome was favorable even when the interval was long, especially in younger subjects. He has never ventured resection, fearing that the inflamed walls of the stomach would be too friable for suture. Enderlen has

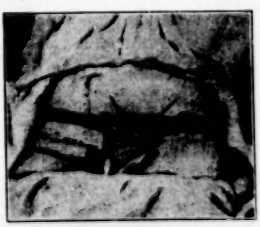
recently reported a fatality from this cause, the suture after resection giving way at one point. Recent reexamination showed excellent functioning in a patient treated in 1912 by suturing the tissues over the perforation, plus gastro-enterostomy, his constant technic.

Ileus from Incarceration of Bowel in Slit in Mesentery.—Sohn adds another case to the list of fifty-two on record with a gap in the mesentery of the small intestine. He also describes what he says is the fifth case in which a gap in the mesocolon was accompanied by volvulus of an hour-glass stomach.

To Insure Continence of Artificial Anus.—Kurtzahn gives an illustrated description of his method of rolling up a square skin flap to make a tube as with a cineplastic amputation. The stump of the intestine forming the artificial anus

is lifted up, and the skin tube is sutured in place across below it, a few inches from the end of the stump. The stump is then brought down over the tube, and skin flaps from each side are sutured over both bowel and tube. A rubber tube, plugged with rubber, is passed through the skin tube which thus lifts up the bowel, and a truss presses the bowel against this elastic background. The illustrations show the technic and its application in two cases with perfect success, restoring the patients to active life with a perfectly continent artificial anus for months to date. In the first case a metal bar had been used in the tube, and this proved too irritating. The man, a prominent government official, had probably applied too much pressure as he wished to prevent passage of flatus. There has been no disturbance in the second case, using rubber instead of metal. Both patients had had the rectum resected for cancer, and the new anus was made as above described at the same sitting. The larger the tube, the easier to keep clean. The openings of the tube are at some distance above and each side of the anus. He describes further a procedure with a bridge flap of skin below which allows the artificial anus to protrude beyond the level of the skin around. This allows the pressure from the truss to be applied at different points, and as the protruding anus formation can be taken in the hand, the feces can be deposited directly in a vessel without soiling the tissues around. This technic requires two or three sittings.

The skin flap and tube.



The special truss and cross-section.

Jahrbuch für Kinderheilkunde, Berlin

October, 1921, **96**, No. 3-4

*Congenital Heart Defects. H. Mautner.—p. 123.
*Nongonococcus Vulvovaginitis in Children. M. A. Tsoumaras.—p. 156.
*Sugar Content of Infant Stomach. P. Hoffmann and S. Rosenbaum.—p. 164.
Etiologic Diagnosis of Umbilical Tetanus. J. Zeissler and R. Käckell.—p. 176.
*Water Content of Blood. K. Benjamin.—p. 181.
*Nontuberculous Respiratory Disease in Children. R. Lederer.—p. 198.

Congenital Heart Defects.—Mautner gives nearly five pages of bibliographic references by titles, set solid, to complete this study of the embryologic-mechanical development, the pathology and the clinical aspects of congenital heart defects.

Epidemic of Nongonococcus Vulvovaginitis in Little Girls.—In the epidemic of twenty-five cases in the children's clinic and hospital at Athens, described by Tsoumaras, the acute clinical picture closely resembled that of gonococcus vulvovaginitis except that the urethra was not involved. The fact that none of the children complained of smarting during urination was the only differential feature of the clinical picture. The diplococcus found in the pus cells of the vaginal secretions was Gram-positive, of coffee-bean shape, growing in agar in punctate colonies, not killed by a temperature of 45 C. in the incubator, the cultures still showing signs of life after the twelfth day. A rabbit developed fever and lost weight progressively after intravenous inoculation of this paragonococcus. The blood of the children and of the rabbit was sterile. Treatment was with potassium permanganate and Wright's method and with an autogenous vaccine, but not much was accomplished with it and he is hoping to get an antiserum from the rabbit infected. Vigorous measures prevented the further spread of the epidemic, but the purulent secretion from the vagina still persisted when the children were taken home by their parents. In one case the girl had had fever from April to September, ascribed to malaria, although the blood did not confirm this diagnosis, and in November the vaginal secretion became purulent and tumors as large as a pigeon's egg developed in one elbow and ankle and both knees. The condition has persisted with only slight change for the better during the several months to date.

The Stomach Sugar Curve in Infant Feeding.—In this report of research on acute nutritional disturbances in infants, Hoffmann and Rosenbaum call attention to the secretion in the infant stomach which occurs regularly—evidently for dilution purposes—as soon as the proportion of albumin in the food surpasses that of breast milk. Their charts of this "stomach sugar curve" show that the dilution of the sugar in the stomach content with a given intake can thus serve as an index of the secretion of gastric juice.

The Water Content of the Blood in Children.—Benjamin compares the blood to the overflow tube in a basin, as the blood in adults never retains on an average more than 1.55 per cent. of the water intake. It passes the overflow on to the tissues, the musculature taking up on an average 67.89 per cent. In young infants the growth depends on the water intake more than later in life, but the plasma itself is not diluted except in children inclined to dropsy. His research on twenty-four children showed that those of the doughy type and those with the exudative diathesis had a higher water content of the blood, regardless of the intake of fluids. The proportion of calories and the digestibility of the food had more influence on the dropsical tendency than the absolute amount of the water intake.

Chronic Nontuberculous Respiratory Affections in Children.—Lederer analyzes 13 cases of congenital chronic respiratory affections, 10 cases in which the respiratory affection was acquired within three weeks of birth, and 50 cases in which it was acquired later. The congenital cases are generally the result of injury at birth or of some familial predisposition, and they are maintained or aggravated by rachitis, intercurrent infection or a damp, cold environment. There were 2 deaths in this group and 5 deaths among the 10 who had acquired the respiratory affection soon after birth. In 10 older children with chronic persisting bronchitis, only 2

V. 192

threw it off; in 4 with chronic pneumonia, one died, as also one of the 4 children with bronchiolectasia. In the 5 with recurring chronic bronchitis and 5 with recurring pneumonia, the influence of exposure to cold and damp was striking, but 3 of the bronchitis and 4 of the pneumonia children have been cured; 2 after 3 recurrences, one after 4, and one after 7 recurrences. In these cases bronchiolectasia is undoubtedly an important factor. The bronchitis did not seem to be modified by removal of adenoids in some of the cases. In a few cases of rachitic tracheobronchitis and of recurring bronchitis, artificial heliotherapy had a remarkably favorable effect. The details are given of each of the 73 cases, many of them followed for years. The child that had had 7 recurrences of pneumonia before it was 18 months old, and none since, is now, twelve years later, apparently normal.

Medizinische Klinik, Berlin

Oct. 30, 1921, **17**, No. 44

*Spinal Cord Tumors. E. Redlich.—p. 1315. Conc'n No. 45, p. 1351.
*Ultimate Outcome of War Nephritis. F. Deutsch.—p. 1318.
Treatment of Cold Abscess. M. Jerusalem.—p. 1321.
*Experiences with War Neuroses. M. Fraenkel.—p. 1322.
Effects of Silver Salvarsan in Syphilis. H. Engleson.—p. 1323.
*Varices and Pregnancy. Ada Stübel.—p. 1325.
*Salvarsan Upsets Ion Balance. F. Jacobsohn and E. Sklarz.—p. 1327.
Mode of Action of Elements of Food. K. Blühdorn.—p. 1331.
Trauma as Factor in Aneurysm. Lenzmann.—p. 1333.

Spinal Cord Tumors.—This is a comprehensive postgraduate lecture. Redlich remarks that we can count on about ten malignant tumors in the spine to one benign tumor, and states that a serous meningitis and disseminated sclerosis may sometimes simulate the clinical picture with a tumor. With a tumor shutting off the communication with the brain, the spinal fluid below it contains an excessive amount of albumin and globulin, but the cell count is usually practically normal. The fluid may be yellow and may coagulate; this occurs more particularly with tumors in the cauda region, while a simple increase in the albumin content speaks for a tumor higher up. Another sign of compression from a tumor is the abnormal behavior of the pressure in the fluid when the head is bent over. The removal of a tumor is generally borne relatively well, although in one personal case the patient died two days after removal of a large glioma. In future he proposes to operate at two sittings. Mingazzini and others have reported 50 per cent. cured; Hildebrandt up to 65 per cent. Krause has a record of 44 cases with 14 completely cured and 6 much improved; 9 did not survive the operation. Förster's record is 9 extramedullary cases, all cured. Redlich, himself, has had 21 cases operated on, and 5 of the 8 extramedullary tumors are completely cured, as also 3 of the 7 cauda tumors; 2 are materially improved and one somewhat improved.

Ultimate Outcome of War Nephritis.—Deutsch has reexamined recently 200 war nephritis cases and found 49.5 per cent. apparently quite cured; 29 per cent. have persisting disturbances entitling to a disability pension.

Traumatic Neuroses.—Fraenkel remarks that of the more than 2,000 cases of war neuroses that he encountered, scarcely one is left now. All such cases vanished like dew before the sun when the war was over, and this experience has taught how to treat the traumatic neuroses of peace. By applying the measures found so effectual for the war neuroses, he cured two cases of disabling traumatic neurosis of eighteen and eleven years' standing.

Varices and Pregnancy.—Stübel was told by 48 of 54 women with varicose veins that the varices had appeared first during a pregnancy. The temperature of the skin over the varicose veins was from 1 to 4 degrees higher than elsewhere. Abdominal tumors do not induce the development of varicose veins. If pressure from the gravid uterus was responsible for the varices, they would be more liable to develop symmetrically, and there would be a tendency to edema, and the region would be cooler instead of warmer than usual. The first appearance of varicose veins at puberty in 2 cases and at the menopause in one case, and the aggravation during menstruation in 18 of 36 cases—all these are arguments that point to dilatation of the vein as the primary factor, and that this is the result of loss of tonus, possibly from some nervous or endocrine influence. This entails the secondary changes in the vessel walls.

Arsphenamin Disturbs the Ion Balance.—Experimental evidence is presented that the toxicity of arsphenamin can be enhanced by increasing the potassium ions in the blood. The rabbits died as if struck by lightning when an otherwise nonfatal dose of arsphenamin was accompanied or followed by a potassium salt. This is accepted as sustaining the theory that the greater toxicity which arsphenamin seems to be displaying since the war is due to the more vegetable diet of the populace. This provides too much potassium and not enough calcium, the result being an upset in the ion balance in the organism. The arsenic element in the arsphenamin, synergizing with the excess of potassium, enhances the toxicity of the drug.

Münchener medizinische Wochenschrift, Munich

Oct. 28, 1921, **68**, No. 43

Regular Changes in Lipoid Content of Blood Under Shock Therapy (*Reiztherapie*). E. Gabbe.—p. 1377.
The Pathology of Pulmonary Tuberculosis. Huebschmann.—p. 1380.
Researches on Blood Coagulation. III. E. Wöhlisch.—p. 1382.
Formation of Indol and Phenol by Bacteria. M. Neisser.—p. 1384.
Postoperative Parotitis. F. J. Kaiser.—p. 1385.
Pneumothorax Treatment. J. Neumayer.—p. 1387.
How Childbirth May Be Made Easier. M. Samuel.—p. 1388.
Vision. F. Schanz.—p. 1390.
The Availability of Diagnostic Tuberculins. E. Diehl.—p. 1392.
Simplification of Cutaneous Tuberculin Test. Brandes.—p. 1392.
Combined Neo-Arsphenamin and Luetin Therapy in Cure of Malignant Syphilis. R. Müller and H. Planner.—p. 1393.
"Nature and Origin of Diastatic Ferments." E. Rothlin.—p. 1393.
Severe Types of Ascariasis. R. Müssig.—p. 1395.
Partial Prolapse of Bladder Through Female Urethra. Hahn.—p. 1397.
Bovine Diphtheria Antitoxin in General Practice. Bieling.—p. 1397.
Use of Narcotics in Heart Disease. Grassmann.—p. 1397.

Zeitschrift für Tuberkulose, Leipzig

November, 1921, **35**, No. 3

Composition of Friedmann Tuberculosis Remedy. Heymann et al.—p. 161.
*Research on Tuberculin. H. Selter and E. Tancré.—p. 171.
*Calcium Treatment in Pulmonary Tuberculosis. H. Maendl.—p. 184.
*Serologic Diagnosis of Pulmonary Tuberculosis. E. Peters.—p. 196.
Milk Not a Substitute for Tuberculin. W. v. Friedrich.—p. 200.

Research on Tuberculin.—Selter and Tancré report that heating tuberculin up to 150 C. did not modify its action when injected into guinea-pigs. This fact confirms that tuberculin is not an antigen. The inflammatory local reaction to tuberculin is specific; it differs essentially from the local reaction to peptone, dysentery toxin and other proteins. Tuberculin subjected to the action of pepsin digestion does not become more toxic but loses its active element.

Calcium in Treatment of Pulmonary Tuberculosis.—Maendl presents his second report on the benefit from intravenous injection of calcium in pulmonary tuberculosis, which he has been applying for four years at the Alland Sanatorium. With severe hemoptysis, he gives every eight hours 5 c.c. of a 10 per cent. solution of calcium chlorid until there is no further hemorrhage, and continues it once a day for several days thereafter. A hot arm bath before the injection aids in finding the vein, also the repeated opening and shutting of the fist after the constricting band is applied. He has given systematic courses of intravenous injections of the calcium chlorid to 250 patients, a total of 4,000 injections. They are made every day or second day, to a total of twenty, and then suspended for a week or two and resumed again. He ascribes to this treatment the subsidence of the subfebrile temperature in a number of rebellious cases, and says that the effect on the cough, expectoration, night sweats and shortness of breath was decidedly favorable. This drug induces local necrosis when injected subcutaneously or into a muscle, but he has had no necrosis with the intravenous technic in the last years. The injection never induced fever. He compares his experience with the conflicting testimony of others in regard to calcium chlorid by the vein in various diseases.

Refractometry and Viscosimetry of Tuberculous Serum.—Peters was unable to confirm that these methods of investigation throw light on the diagnosis and course of tuberculosis, except that long repeated examinations showing a decline in

the albumin and globulin content of the serum indicates an upward, favorable trend.

Zeitschrift für Urologie, Leipzig

1921, **15**, No. 6

Suprapubic Prostatectomy. Ringleb.—p. 221.
*Primary Carcinoma of Seminal Vesicles. Brack.—p. 232.
Bilateral Catheterization of Ureters. A. Narath.—p. 237.
*The Epididymitis and Deferentitis Epithelium. D. Ohmori.—p. 240.

Primary Carcinoma of the Seminal Vesicles.—Brack says that he could find records of only six cases of this kind in the literature, but he has encountered two, himself, at necropsies. Metastasis is early and extensive, but there are no local symptoms until the malignant disease is far advanced. The patients were all aged.

Changes in the Epithelium with Inflammation of Epididymis and Vas Deferens.—Ohmori discusses the histologic changes in eleven gonorrheal or tuberculous cases.

1921, **15**, No. 7

Operation for Pseudo-Stone in the Ureter. N. Kleiber.—p. 263.
*Radiotherapy of Disease of Sexual Organs. F. M. Meyer.—p. 269.
Diagnosis of Ureter-Vagina Fistula. H. G. Pleschner.—p. 274.
Indications for Operation with Urinary Calculi. v. Rihmer.—p. 276.
Gonococcus Infection of Hydronephrotic Kidney. Dozsa.—p. 280.
*Plastic Operations on Urethra. E. Pfeiffer.—p. 282.

Radiotherapy for Disease of the Sexual Organs.—Meyer's verdict is negative in regard to nonspecific catarrhal affections of the urethra and also for gonorrhea, in male or female. The roentgen and quartz lamp rays and even diathermy have proved ineffectual in his ten years of trials with a large material. But condylomas of all kinds yielded to well filtered and not too small doses of the roentgen rays, and this he regards as essential progress. Phagedenic ulcus molle also responded favorably to artificial heliotherapy. Rebellious syphilitic buboes, rebellious leg ulcers and alopecia may be favorably influenced by artificial heliotherapy in stimulating doses. Plastic induration of the penis subsided materially under the roentgen rays, and he advises to apply them early in such cases. Tuberculous epididymitis, hypertrophied prostate and bladder cancers should always be given operative treatment, but when this is not practicable, radiotherapy may give great relief. The spastic elements in the clinical picture may subside under it.

Plastic Operations on the Urethra.—Pfeiffer states that his reconstruction of the urethra, even for gaps of 6 to 8 cm., always healed smoothly and without mishaps later. His success is due, he is confident, to his principle of never using a retention catheter. He systematically diverts the urine, making the small incision into the bladder a week before the plastic operation on the urethra, except when a rupture forces him to operate at the one sitting. With the careful technic he uses, the fistula into the bladder always healed smoothly at the proper time.

1921, **15**, No. 8

*Functional Tests of the Kidneys. Richter.—p. 317. Idem. Casper. —p. 330.
Cystoscopic Findings in Paretic Bladder. E. Pfister.—p. 343.
Contrast Fluid for Pyelography. K. Schecle.—p. 347.

Tests of Kidney Functioning.—Casper remarks that a permanent functional disturbance always indicates that part of the parenchyma is not working, but it gives no hint as to the reason of this. This and the following issue of the *Zeitschrift* are devoted almost entirely to the lively discussion on this subject at a joint session of the organized internists and pediatrists and the urologists.

Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

Oct. 8, 1921, **2**, No. 15

Influence of Fatigue on Certain Optic Phenomena. Sanders.—p. 1820.
*Anemia in Twins. T. Halbertsma.—p. 1837.
Principles for Treatment of Diabetes. H. A. Lubbers.—p. 1841.
Pseudodiphtheria Bacilli Not Avirulent Diphtheria Bacilli. J. W. Janzen.—p. 1847.
*Initial Symptoms of Tabes. G. C. Bolten.—p. 1851.

Comparative Therapeutics of Twins.—Halbertsma was treating anemia in a pair of twins and compares the effect of transfusion of 130 c.c. of the father's blood (citrated) in one twin, with the effect of iron and arsenic drugs in the other. They were prematurely born girl twins, weighing at 8 months 4,650 and 5,600 gm. and both presenting the clinical picture of pseudoleukemic anemia plus rachitis. The one given the transfusion was the most seriously affected, but it began to improve promptly and soon caught up with and surpassed the other twin in weight, while the blood improved and the spleen grew smaller. In the child given only iron and arsenic, the spleen had grown larger and the rachitis more severe, and the blood showed 1 per cent. myelocytes and 2% per cent. nucleated red corpuscles, in contrast to the corresponding figures of ⅝ and ⅜ in the transfusion child.

Diagnosis of Incipient Tabes.—Bolten describes some cases of unmistakable incipient tabes in which none of the four specific tests of spinal fluid or tests of the blood elicited a positive reaction. In some cases isolated paralysis of the ocular muscles, beginning atrophy of the optic nerve, with sluggish pupil reactions or anisocoria, may be regarded as testifying to tabes, even in the absence of all other signs, as also a symmetrical hard ulcer on the soles, the falling out of the hair and of sound teeth, a spontaneous fracture, or isolated crises in the larynx, bladder, stomach or arms. These may long precede other manifestations of the disease. One supposedly healthy woman at her third pregnancy had periods of pain in the anal region, but they did not return for six months after the birth of a healthy child. She consulted several physicians, but no one thought of tabes until the anal crises returned and with them other symptoms of tabes. A man of 30, otherwise healthy, applied for treatment of a symmetrical hard ulceration on both soles; it was not mal perforant, and the pupil and other reflexes were normal. Under treatment for syphilis, the long rebellious lesions healed, but he neglected to return for further treatment, and three years later lancinating pains and the pupil reflexes confirmed the diagnosis of tabes. A spontaneous fracture with no tendency to consolidation was long the only sign of tabes in another man of 32.

Ugeskrift for Læger, Copenhagen

Dec. 15, 1921, **83**, No. 50

*Treatment of Chronic Polyarthritis. A. Faber.—p. 1663.

Treatment of Chronic Polyarthritis.—Faber refers to measures that can be carried out in the home after a course of treatment elsewhere, saying that in no other pathologic condition is the active personal cooperation of the patient so important. He must learn to help himself, and the physician can teach him how to do this, and encourage him to keep up his efforts. With crippling arthritis of the hand, the physician must ponder whether amputation and a good artificial hand might not be a gain. In one case he released the fluid in the crippled knee joint and injected a solution of phenol with good results; the pains nearly entirely vanished and the gait was much improved. The aim in treatment otherwise is to get the best function possible out of the crippled joint, and the constant and active use of the muscles that move the diseased joint is the best of all means for mobilizing exudates, warding off adhesions, etc. For this, daily gymnastic exercises are useful, and getting the patient interested in some amateur manual training work, a work bench or book binding work. Women can use a sewing machine, worked by foot or hand, and any form of knitting or the like is useful to train the arm and hand. A music loving patient can be encouraged to practice on the piano. If the patient can mount a bicycle, this is of course excellent. With a crippled foot, it is often possible to improve conditions by an insole or heel adapted to throw the weight on other muscles. This may at least relieve pain if it does not improve the gait. The use of an invalid's chair is perhaps the most difficult point, as they are not constructed with a view to aiding the patient to exercise his limbs, as they should be, for many cases. A tricycle would be better than these except that the seat is so uncomfortable. Better models should be devised for rolling chairs and tricycle. He has found it useful sometimes to give a little salicylate to precede the exercises. He sometimes advises a pause for a few days in the exercises, and gives bromids. This soothes and modifies the disturbances of a vasomotor nature.